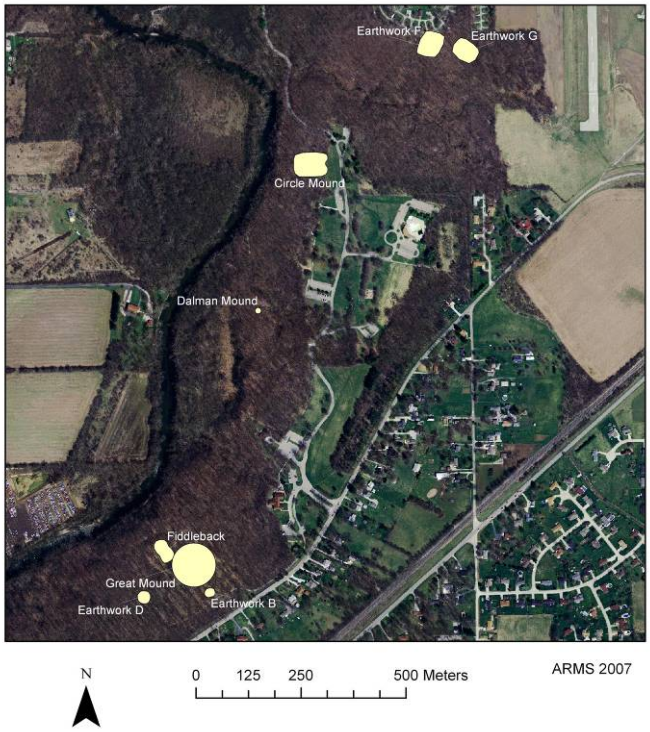
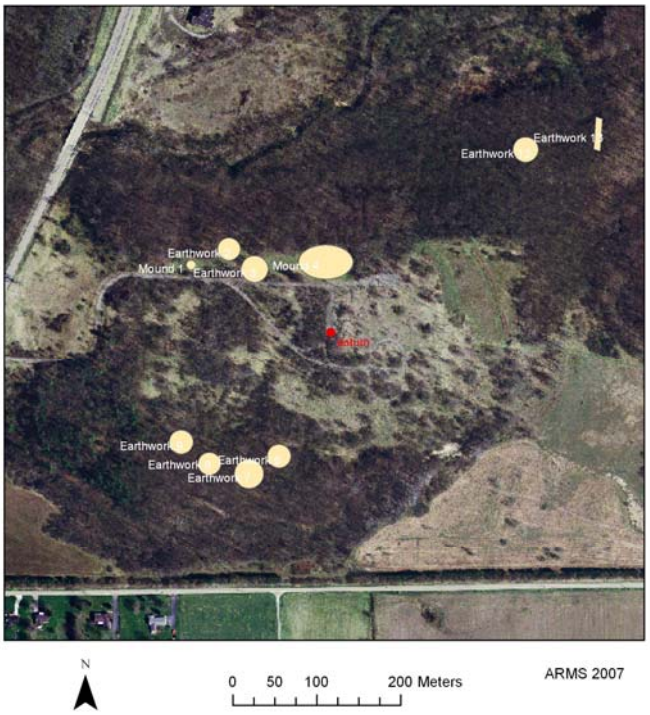
1999 Excavations at Mounds State Park (12-M-2) and the New Castle Site (12-Hn-1)





by
Beth McCord

Reports of Investigation 73

October 2008

Archaeological Resources Management Service
Ball State University
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ACKNOWLEDGMENTS

This project could not have been completed without the assistance of several people. Kent Parks, Manager, and Karen Dalman, Naturalist, of Mounds State Park were always standing by to provide assistance and support for the project.

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Laboratory processing was completed in part by the field school students and the remainder by ARMS employees. I would like to thank Rebecca Sick, Emily Tucker, Kim Nagle and Sarah Cole for their work in cleaning and cataloguing. The creation of several maps was assisted by Tim Ritchey and Andy Martin.

Thank you all. I hope that I have not forgotten anyone in the delay between the fieldwork and this report.

ABSTRACT

The 1999 Ball State University archaeological field school was held at the Anderson Mounds complex located in Mounds State Park and the New Castle complex. These two sites represent the best preserved Middle Woodland earthwork complexes in east central Indiana. Limited excavations were conducted at several of the earthworks at Anderson Mounds and one habitation site. Investigations at New Castle re-opened areas previously excavated to expose intact profiles in Mound 4. Information concerning artifact types, radiocarbon dates and construction of the earthworks were recovered.

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INTRODUCTION

Over the past 20 years, the Archaeological Resources Management Service (ARMS) at Ball State University has maintained an ongoing research project devoted to the regional mounds and enclosures in east central Indiana (Cochran 1988, 1992, 1996; Cochran and McCord 2001; Kolbe 1992; McCord 1994, 1998, 1999, 2006a; McCord and Cochran 2000)(Figure 1). In the decade following the 1987 test excavations at Anderson Mounds (Cochran 1988), excavations of regional sites have been minimal (Kolbe 1992, 1992b; McCord 1998, 1999). However, during this period a wealth of reanalysis and reinterpretation of these sites has occurred (Cochran and McCord 2001, McCord and Cochran 1996, McCord 1999, McCord and Cochran 2000). The 1999 Ball State University archaeological field school was structured to obtain new data in order to address questions concerning the current hypotheses about two of the earthwork sites.

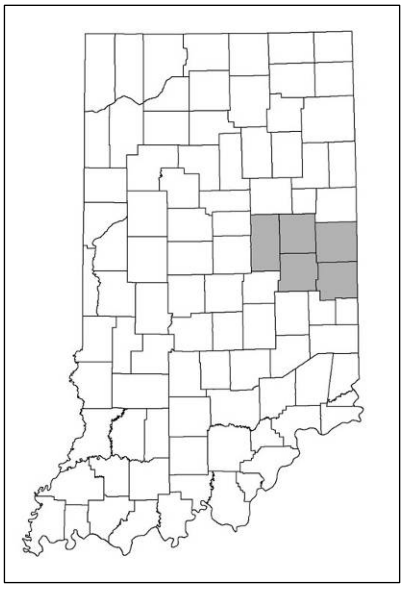


Figure 1. East central Indiana region in Indiana.

Test excavations were conducted to obtain additional information as recommended by previous investigations from the Anderson Mounds (12M2) at Mounds State Park, Anderson, Indiana (Kolbe 1992) (Figure 2) and the New Castle site (12Hn1), New Castle, Indiana (McCord 1999) (Figure 3). Excavations at Anderson Mounds were structured to determine the nature and extent of a small habitation located near the southern enclosures, to refine the documentation of the earthworks through a refined site map, and to test several of the enclosures to determine their structure. At the New Castle site, excavations were conducted to expose sections of Mound 4 that were previously excavated to obtain accurate profiles of the mound structure.

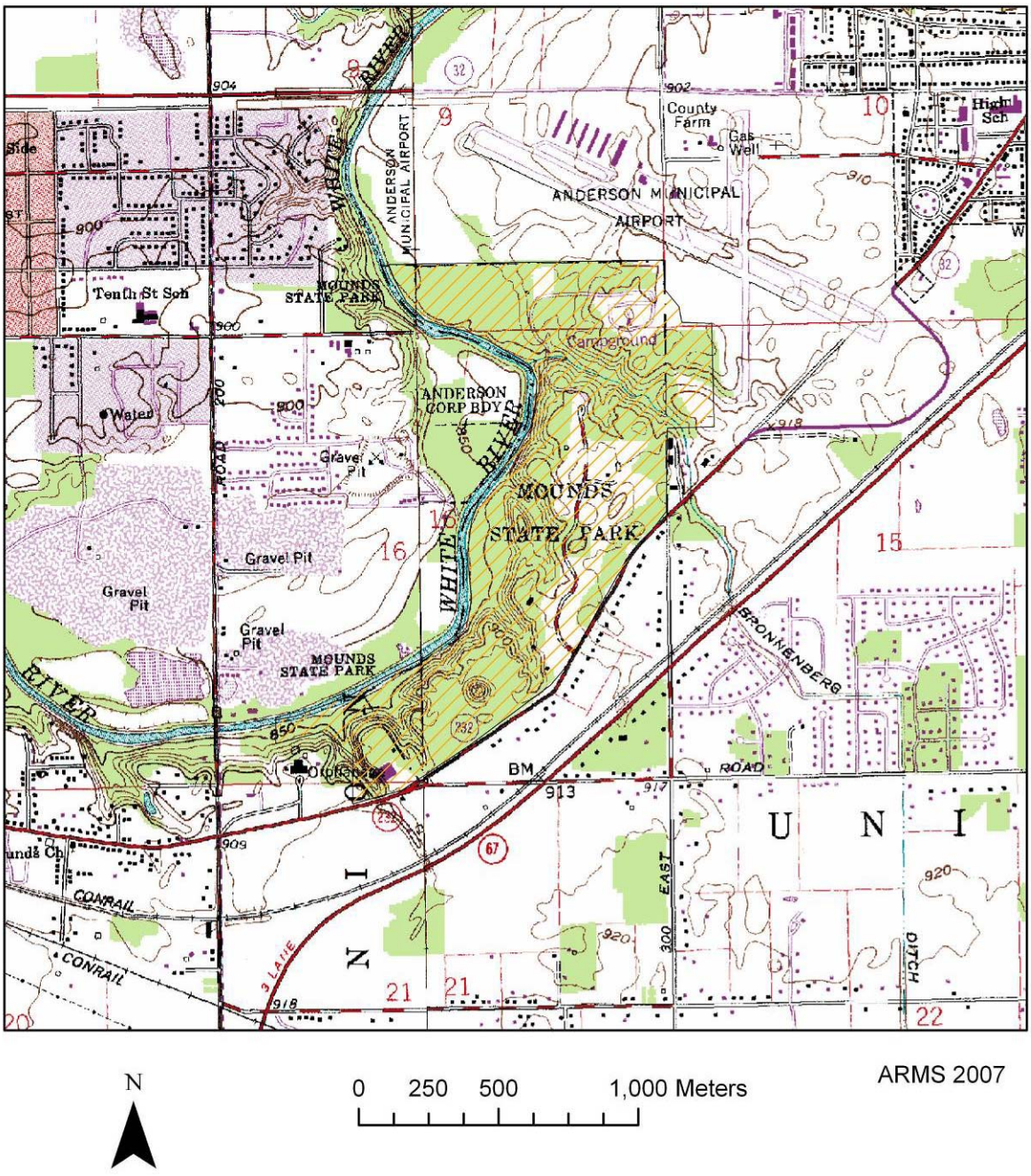


Figure 2. A portion of the USGS 7.5' Middletown, Indiana Quadrangle showing the location of Mounds State Park.

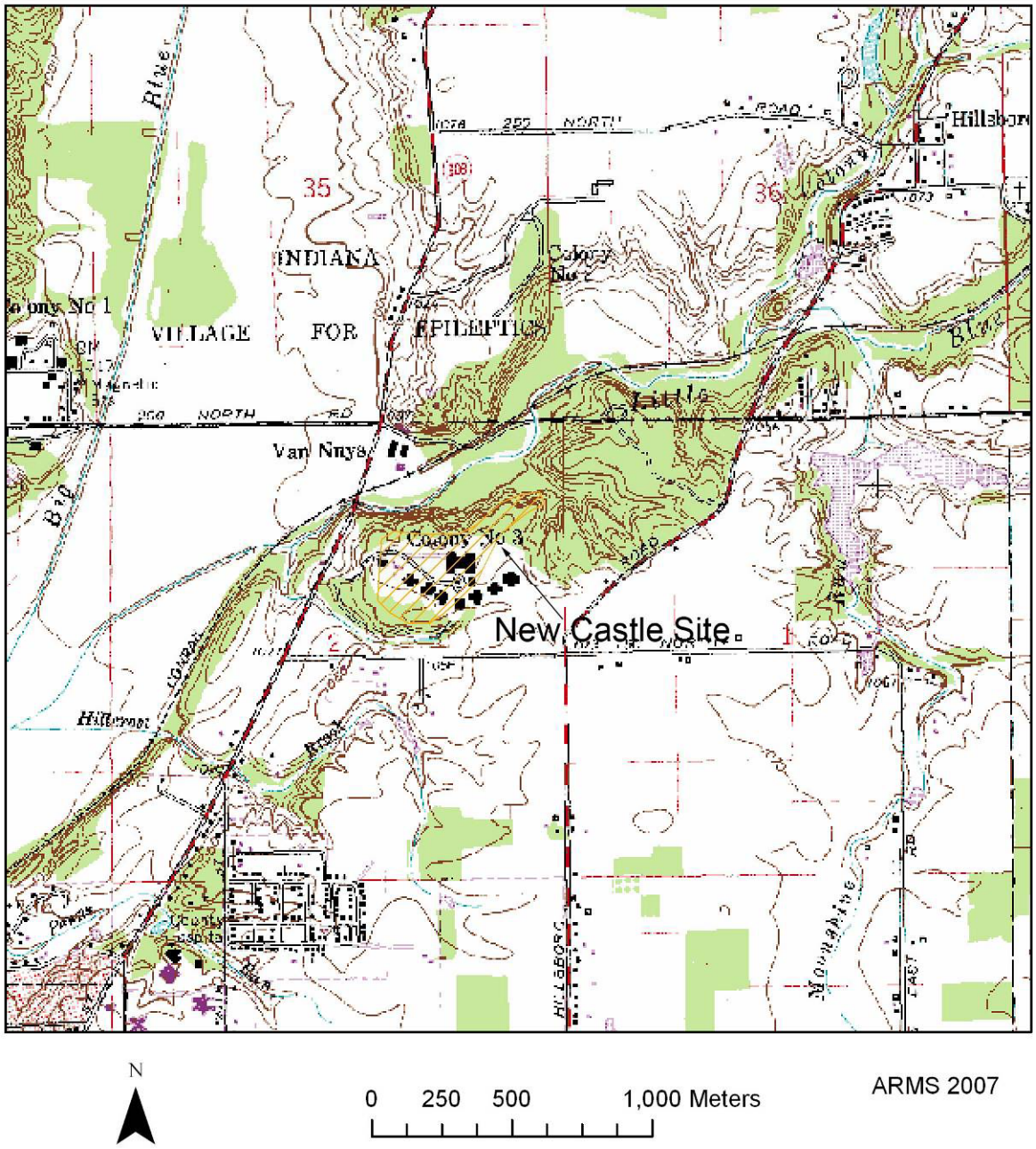


Figure 3. A portion of the USGS 7.5' New Castle East Quadrangle showing the location of the New Castle site.

The report documents the excavations of the 1999 Ball State University archaeological field school conducted between June 14 and July 16, 1999. The project was conducted under the Division of Historic Preservation and Archaeology, Department of Natural Resources, approved plan #9900020. Each site is briefly reviewed including a summary of previous archaeological investigations. Descriptions of the excavations and the results are presented. While this report lags eight years behind the field work, the data obtained by this project has already been integrated into the regional research of earthwork sites (Cochran and McCord 2001, McCord 2006a, McCord and Cochran in press).

METHODS

Survey

All instrument survey was accomplished using a Sokkia SE 6 total station with SDR 33 fieldbook. Survey information was downloaded utilizing Prolink software. The data was then imported into Surfer, Photoshop and ARCGIS software to create the contour and site maps.

A master metric grid system was established for Mounds State Park in 1987. Two permanent datum markers, C and D, were established for the southern earthwork complex in 1988 and were tied to the master datum point, a benchmark located outside of Mounds State Park (Figure 4). The 1987 and 1988 BSU field schools (Cochran 1988, Kolbe 1992) used the C datum as the permanent reference for the excavations. The 1999 excavations and survey were also tied to the C datum.

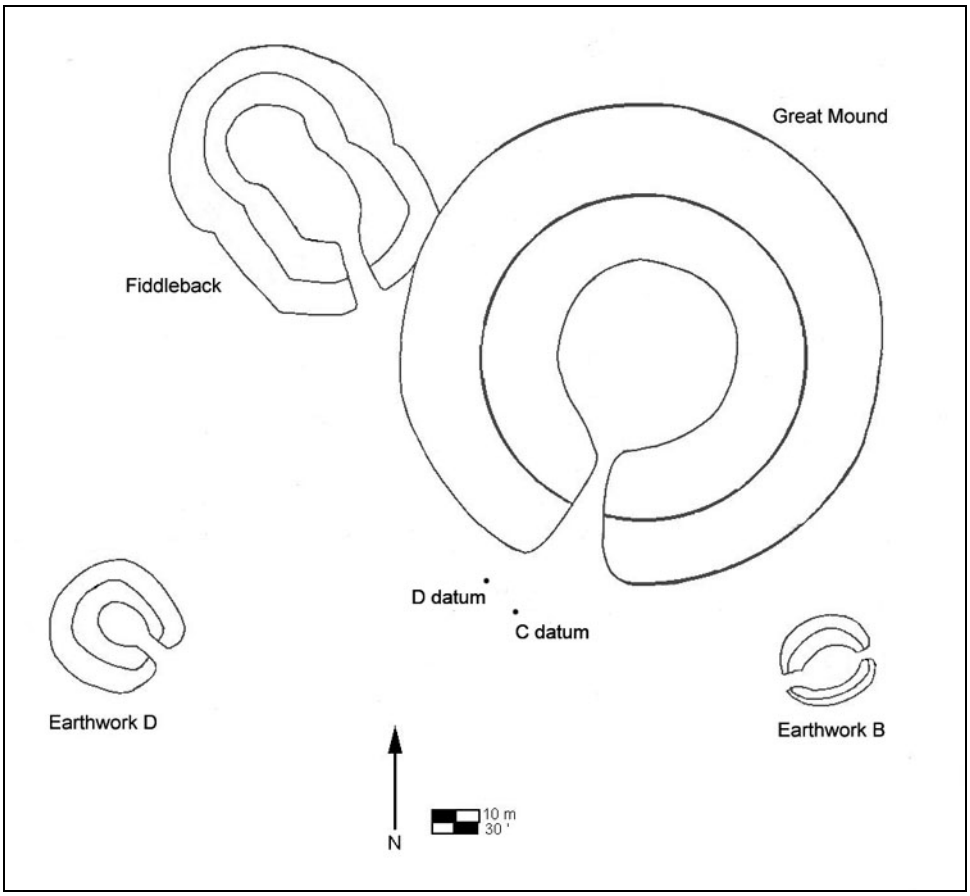


Figure 4. Location of C datum and D datum in MSP.

No master grid has been established for the New Castle site. A permanent datum for Mound 4, utilized during the 1965-1971 excavations (Swartz 1976), could not be relocated. The excavations of Mound 4 were tied to a datum marker established during a 1998 testing project of the site (McCord 1999)(Figure 5).

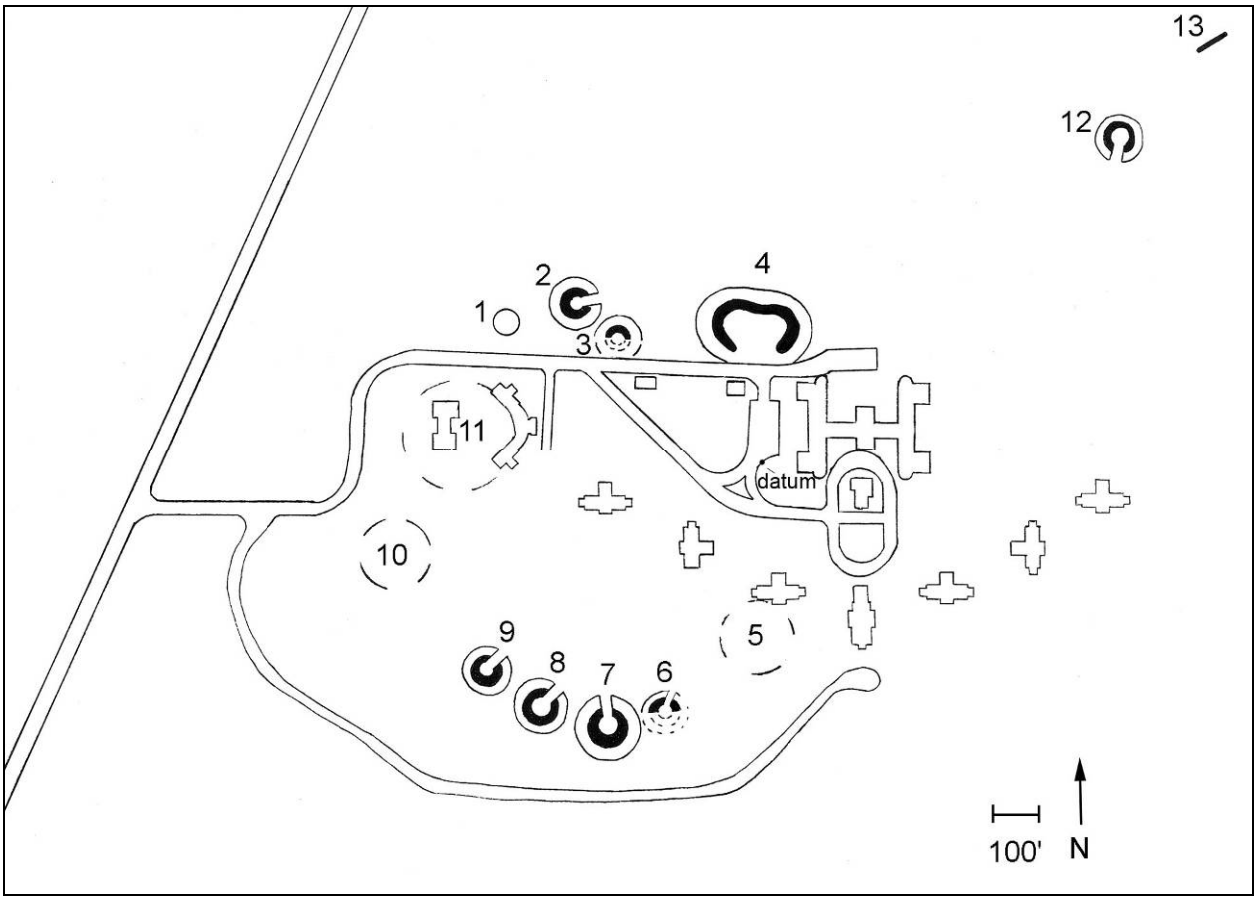


Figure 5. Location of the 1998 and 1999 datum at New Castle.

Excavation

The excavations at Anderson Mounds were conducted by units ranging in size from 0.5 m x 0. 5 m to 1 m x 2 m depending upon location. The units were excavated by hand in 10 cm deep arbitrary levels with the soil screened through 6.4 mm wire mesh. Horizontal and vertical provenience was maintained throughout the excavation. Horizontal provenience was tied to the permanent datum and units were recorded in relation to this point. Vertical provenience was maintained by the elevations recorded from the datum. Elevations were established at the ground surface of the southwest corner of each excavation unit to serve as a unit datum. All elevations within each unit were taken from the unit datum. Features were numbered as encountered and a feature form filled out. The plan view of the feature was photographed and drawn and at least 1/2 of the feature was excavated. A profile map of the feature was drawn upon completion of the excavation. All excavated feature fill was retained for flotation. Excavations within each unit were recorded by plan maps of each level, plan and profile maps of all features and wall profiles. Samples appropriate for radiocarbon dating were collected. Diagnostic artifacts were photographed and mapped *in situ* and individually bagged. Non-diagnostic artifacts were provenienced by unit, level and/or feature.

The testing of the Dalman Mound was conducted by cleaning out previously excavated soil from a 2 x 3 m unit within the central pot hole and screening all the soil as one level. The south wall was then straightened to obtain a profile. This necessitated the excavation of a small amount of intact mound matrix that was screened separately.

The excavations at Mound 4 of the New Castle site were conducted by reopening sections of previously excavated areas to exposed intact sections of the mound for profiling. This basically resulted in the excavation of two trenches: one in the eastern part of the mound and one in the west. The trenches were sectioned off in 2 meter long segments to provide some provenience control even though the excavated soil was backfill. From each 2 meter long segment 10 - 5 gallon buckets of soil were screened through 6.4 mm mesh to obtain a sample of contents in the backdirt. Once the intact walls and floor were exposed they were trowel scraped to reveal the various strata. The walls were then profiled using a consistent scale. A soil sample, approximately 0.5 liters in size, was obtained from each defined strata. One 1 m x 1 m unit was excavated to sample a feature in the floor of Trench A. Samples appropriate for radiocarbon dating were collected. Artifacts were bagged by trench, segment or strata. The elevation of the profiles and locations of the trenches were recorded from the datum. The excavations at the New Castle were minimally invasive to the intact structure of the mound.

The project was documented using black and white print film and color slide film. All artifacts and samples recovered during this project were taken to the ARMS laboratory at Ball State University for processing, analysis and curation. The materials obtained during this project from Anderson Mounds were accessioned under # 99.85 and materials from the New Castle site were accessioned under # 99.86.

Laboratory

Laboratory methods followed standardized ARMS procedures. Artifacts were cleaned, identified and catalogued using categories established for the definition of technological classes of lithic artifacts (Cochran 1986)(Appendix A). Metrical attributes and raw materials were recorded. Diagnostic artifacts were drawn and/or photographed. Radiocarbon samples were dried, weighed and repacked prior to submission to Beta Analytic, Inc. Feature forms and level records were verified and maps redrawn for publication. Flotation samples from cultural features were processed. A complete listing of materials recovered from the 1999 field school is given in Appendices B & C.

ANDERSON MOUNDS

Background

Anderson Mounds (12M2) is located in Union Township in portions of Sections 9 and 16, Township 19 North, Range 8 East as shown on the USGS 7.5' Middletown and Anderson South, Indiana Quadrangles (Figure 2). The earthworks are located within Mounds State Park, Anderson, Indiana and the site is listed on the State (095-409-050010) and National Registers of Historic Places (Anonymous 1984:68). The site is located between 890' and 920' AMSL along a terrace and uplands to the east of White River. Bronnenburg Ditch, a small drainage, and several intermittent drainages occur near the earthworks. The earthworks are located on well drained Miami silt loams and Fox silt loams (MnA, MnB2, FoA and FsA)(Schermerhorn 1967:map sheet 50).

The earthworks have been investigated through survey and limited excavation for over 100 years (Cochran 1988; Cochran and McCord 2001; Cox 1879; Buehrig and Hicks 1982; Ellis 1975; Hicks 1981; Kellar 1969; Lilly 1937; Smith 1932; White 1968; Vickery 1970, 1970b). When the earthworks were surveyed by Cox (1879), 2 groups of earthworks were described, one at the southern end of the park and one at the northern end. The southern complex was mapped as five circular, 1 elliptical and 2 panduriform earthworks as well as two mounds associated with the earthworks (Figure 6). The northern complex consisted of three rectangular earthworks (one was recorded as circular) (Figure 6). A small mound located between the northern and southern groups was reported by Lilly (1937:40). Since Cox's survey, some of the earthworks have been destroyed and others have been discounted as natural features. An overview of the earthworks and the archaeology conducted at Mounds State Park describes the individual earthworks (Cochran and McCord 2001) and will only be summarized here.

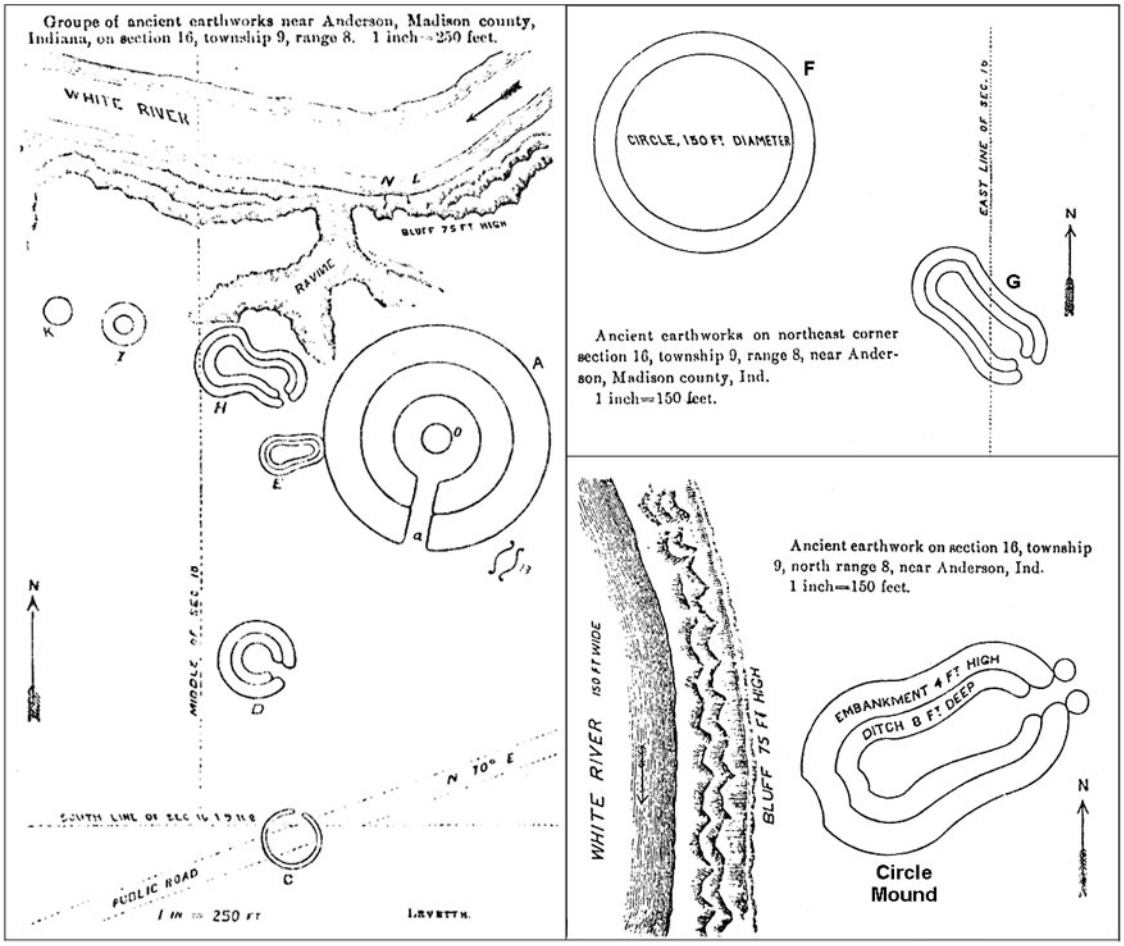


Figure 6. Early maps of the earthworks at MSP (Cox 1879).

Historic landuse at Anderson Mounds has involved a variety of activities prior to the establishment of Mounds State Park in 1930. Between 1840 and 1850 Frederick Bronnenberg, Jr. purchased the land that encompasses the southern group of earthworks and established a farm. The brick house he built is used in the park's interpretative programs. Recently public archaeology programs have occurred the house (McCord 2006b, 2007). The earthworks on Bronnenburg's land were not disturbed by agriculture. The northern group of earthworks were located on E. McClanahan's farm and did suffer degradation from cultivation. In the later 1890s, the area of the southern enclosures was leased and then purchase by the Indiana Union Traction Company which established an interurban line and an amusement park (Figures 7 & 8). Activities during this period caused disturbance and possibly the destruction of some of the prehistoric remains. After the land was purchased for the establishment of the state park, all of the historic structures except for the Bronnenburg farmhouse were demolished (Buehrig and Hicks 1982, McCord 2007).

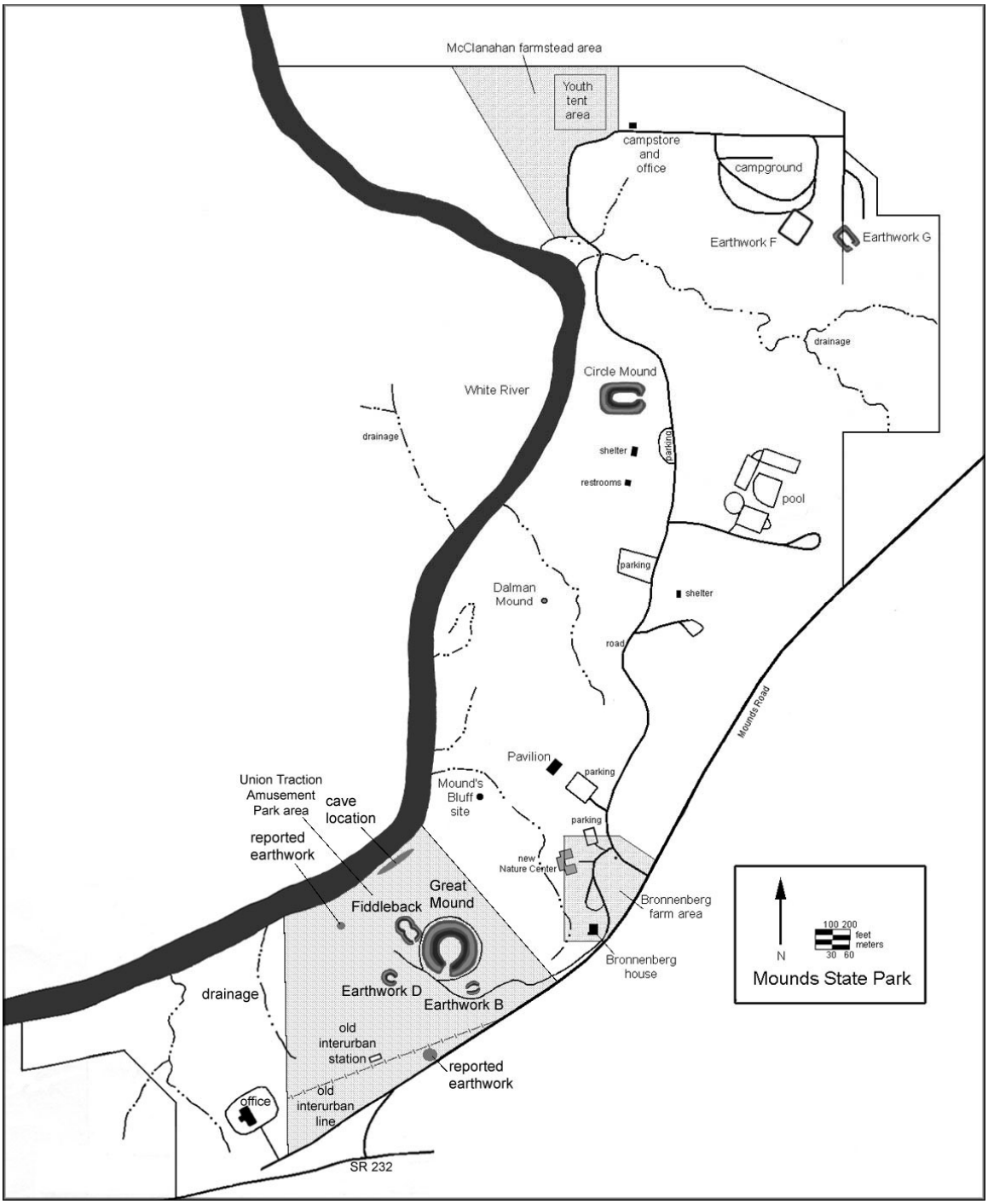


Figure 7. Some of the archaeological sites within MSP.

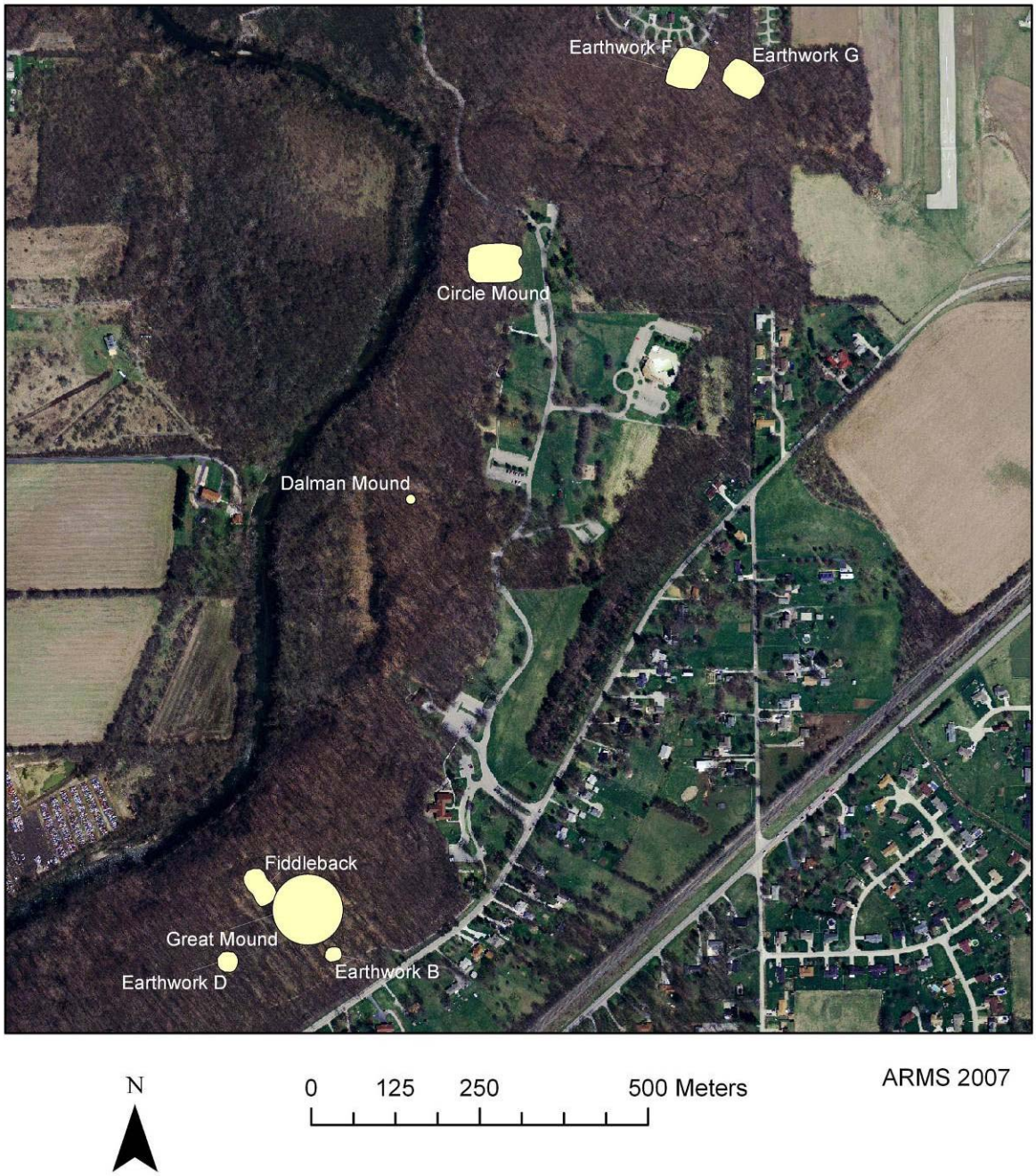


Figure 8. 2006 aerial map showing the location of the known earthworks.

Extensive professional archaeological study of the earthworks began in 1968 (Figure 9). White (1968) and Vickery (1970) of Indiana University excavated the central platform and the small mound on the central platform of the Great Mound (12-M-2a), and the western lobe of the Fiddleback earthwork (12-M-2h) in 1968 and 1969. The goals of their work were to compare site features encountered during excavation to other earthworks recognized as belonging to Adena and Hopewell.

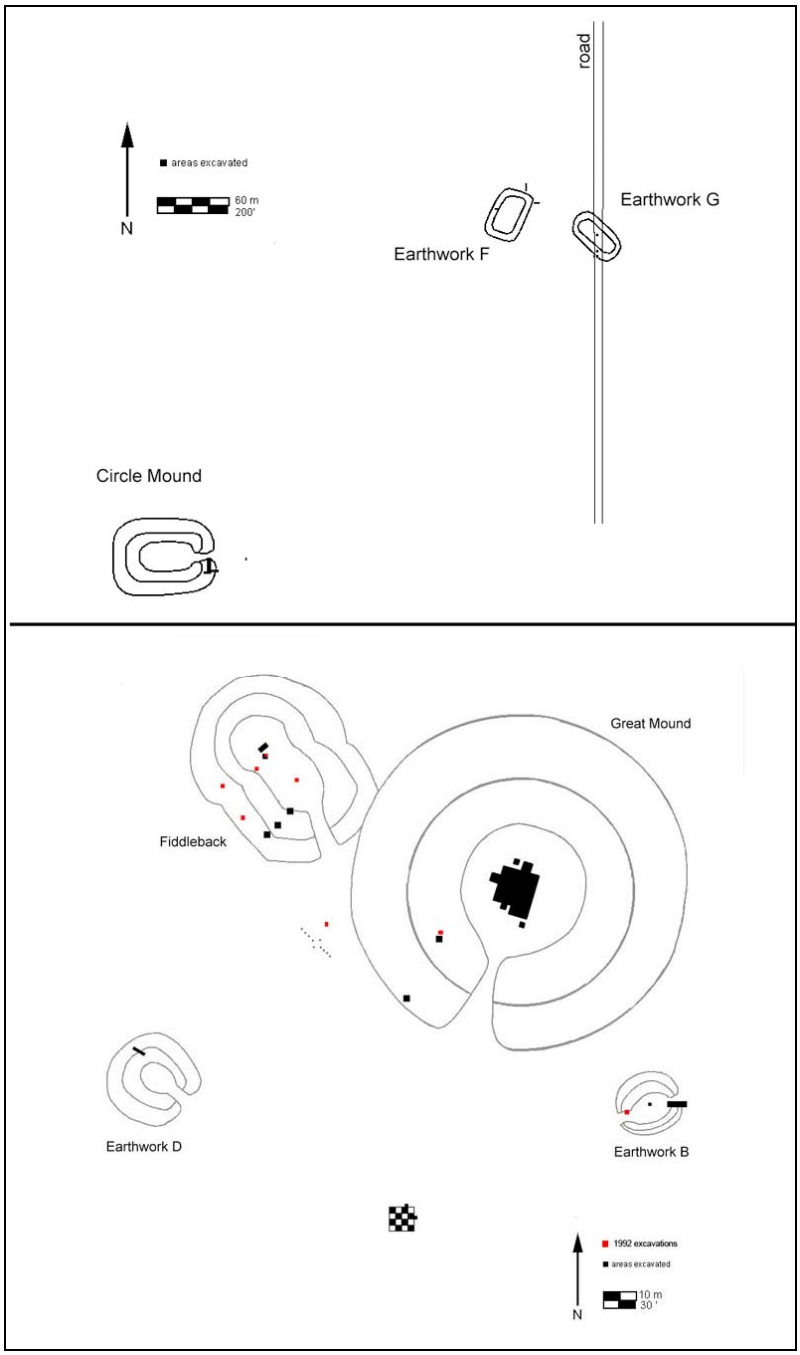


Figure 9. Locations of previous excavations shown in black and the 1999 excavations shown in red.

Excavation of the small mound revealed that a prepared silt area was constructed and a primary mound consisting of alternating layers of burned clay and white calcite powder was built. Post holes, associated with the first clay floor, occurred in the interior and on the edge of the primary mound. The next construction consisted of a log tomb that contained a bundle burial and a cremation. With the burials were fragments of mica, a platform pipe that dates to circa AD 50, and 13 split deer bone awls. Two crematory basins were also reported. The mound was

capped and at a later date four intrusive burials occurred. Found within the mound fill were ceramics that included the New Castle Incised type, a fragment of a rectangular slate gorget, drilled bone objects that may be shaped like bear canines, hammerstones, scrapers, knives, points, flakes, burned bone and shell. In addition to the post molds associated with the primary mound, 450 post molds were recorded on the central platform. Radiocarbon dates from posts associated with the primary mound were 60 BC ±140 (M-2429) for post 3 and AD 230 ±130 (M-2428) for post 2 (White 1969, Vickery 1970, Vickery 1979, Kellar 1969, Buehrig and Hicks 1982).

The IU excavation of the Fiddleback enclosure consisted of a 5' x 10' trench excavated 8" deep on the western lobe of the platform. The excavation documented 2 calcite concentrations, smaller pieces of calcite and burned earth, rocks, flint debitage, animal bone, snail shells, burned clay and pottery. Most of the pottery was New Castle Incised (Vickery 1970).

In 1979 and 1980, Ball State University field schools focused on documenting the northern group of enclosures. The two northern-most enclosures (12-M-2f and 12-M-2g) had been severely damaged from cultivation, road construction and the development of the campground. These earthworks were found to be rectangular in shape as opposed to Cox's (1879) depiction (Lilly 1937, Buehrig and Hicks 1982). Test excavations at these enclosures did not obtain any diagnostic artifacts or radiocarbon dates. Testing of the Circle Mound (12-M-2j) occurred at the south mound structure that flanked the gateway. From the profiles, the mound was documented to have been constructed after the embankment (Donald Cochran, personal communication 1996). Radiocarbon dates from the mound were 5 BC ± 75, (I-11, 848) AD 70 ± 60 (Beta -2416), and AD 80 ± 60 (Beta - 2415) . A radiocarbon date from the embankment was AD 390 ± 80 but was considered erroneous. Hicks believed the mound and embankment were contemporaneous (Buehrig and Hicks 1982:24-25).

In 1981 a systematic archaeological survey was conducted at Mounds State Park (Buehrig and Hicks 1982). The project documented the archaeological resources within the park, not just the earthworks. From this study, a cultural resources management plan for the park was prepared. The objectives of the plan were to establish a dating sequence for the earthworks within the park, to delineate unclear earthworks in the southern complex, and to provide interpretative data.

With these goals in mind, Ball State University conducted a field school at the park in 1987 (Cochran 1988). The field school conducted limited testing at the embankment of the Great Mound (12-M-2a), the embankment and ditch of the Fiddleback earthwork (12-M-2h), at the elliptical earthwork (12-M-2b), at the small panduriform earthwork (12-M-2e) and placed an auger in the ditch of the circular earthwork (12-M-2d) to obtain radiocarbon dates and accurately record the original structures. The most significant results of these excavations were the acquisition of radiocarbon dates. A date of 160 BC ± 90 (Beta -22129) was received for the construction of the embankment of the Great Mound and a date of 140 BC ± 90 (Beta - 22130) was received from the construction of the embankment of the Fiddleback.

Ball State returned to the site in 1988 to continue research. Limited testing continued at 12-M-2b and 12-M-2d to acquire material suitable for radiocarbon dates but none was encountered. The excavation of one unit on the western lobe of the Fiddleback Mound (12-M-2h) recovered materials similar to those reported by the IU excavations. Non-diagnostic lithic artifacts were manufactured primarily from local raw materials with small amounts of Burlington, Delaware and Wyandotte cherts. Plain and incised ceramics were recovered and the incised sherds were typed as New Castle Incised. Burned clay was encountered and was interpreted as daub. Burned and unburned bone was found in high quantities, but most were very small unidentifiable fragments. Identified bone included turkey, mole, squirrel, cottontail, black bear, and white-tailed deer. Interestingly, the black bear bones could possibly be from a single left paw. Three bone fragments had been modified and shaped and two bone fragments were decorated with a small incised six line star pattern. The excavation also documented fire-cracked rock and deposits of white calcite powder. A radiocarbon date of 120 BC ± 70 (Beta - 27170) was obtained from a sample from the unit. Another unit excavated in the ditch of the enclosure produced a similar date of 120 BC ± 50 (Beta - 27169) from a post mold. Excavations also tested the validity of a gateway focal point and found no aboriginal activity. A feature that was not completely excavated in 1979 on the central platform of earthwork 12-M-2g was reopened. The feature was determined to be a burned out tree with carbon samples dating to AD 1530 ± 75 (Beta - 27168) (Hicks 1981:65) and AD 1800 ± 80 (Beta -27168) (Kolbe 1992). During the survey of the southern enclosure complex, the presence of astronomical alignments occurring at the site was also discovered (Cochran 1992).

A small testing project in 1991 by ARMS recovered a charcoal sample from a post (Vickery's 1970 post 2) located adjacent to the primary mound on the central platform of the Great Mound. The resultant date was 250 BC ± 70 (Beta-45955). A curated charcoal sample from IU's excavation of the log tomb in the mound on the central platform of the Great Mound was submitted for dating by ARMS with a resultant date of AD 40 ± 80 (Beta-52612) (McCord and Cochran 1996:142).

Data obtained from Anderson Mounds initially suggested that there was a continuity of construction from the Adena Complex through the Hopewell Complex (Cochran 1992, 1996). This model continues to be refined (McCord and Cochran, in press) and has led to the redefinition and revitalization of the New Castle Phase for the east central Indiana earthworks (McCord 2006a).

Results

The 1999 Ball State University field school was structured to follow the archaeological management plan of the park (Buehrig and Hicks 1982) and research objectives recommended after the 1988 field school (Kolbe 1992). A habitation site was tested for its possible association with the earthworks. The project was also designed to obtain new data, particularly concerning chronology and structure, through modest excavation of several earthworks. This included the first professional documentation of the Dalman Mound. The results of this project were presented below.

Habitation -12-M-2hh

A small habitation site (12-M-2hh) located along the bluff edge to the north of the Great Mound was chosen for testing (Figure 10). The site was recorded in 1981 during an archaeological survey of Mounds State Park (Buehrig and Hicks 1981:40, 68, Appendix A). The park was surveyed at 20' intervals with shovel probes utilized in areas of limited visibility. Since the site was reported in a wooded section of the park, it was likely discovered through shovel probing. The report did not define the size of the shovel probes or indicate if they were screened (Buehrig and Hicks 1981). The site size was not indicated in the text, but the site area drawn on a map showed the site as approximately 175' NS x 200' EW. From the site, 7 lithic flakes including a *piece esquilee* and 33 fire-cracked rocks were reported. A scatter of historic materials was also reported. While the site did not have a high density of artifacts, its proximity to the Great Mound was intriguing. In addition, few of the prehistoric sites recorded in the park outside of the earthworks had ever been tested.

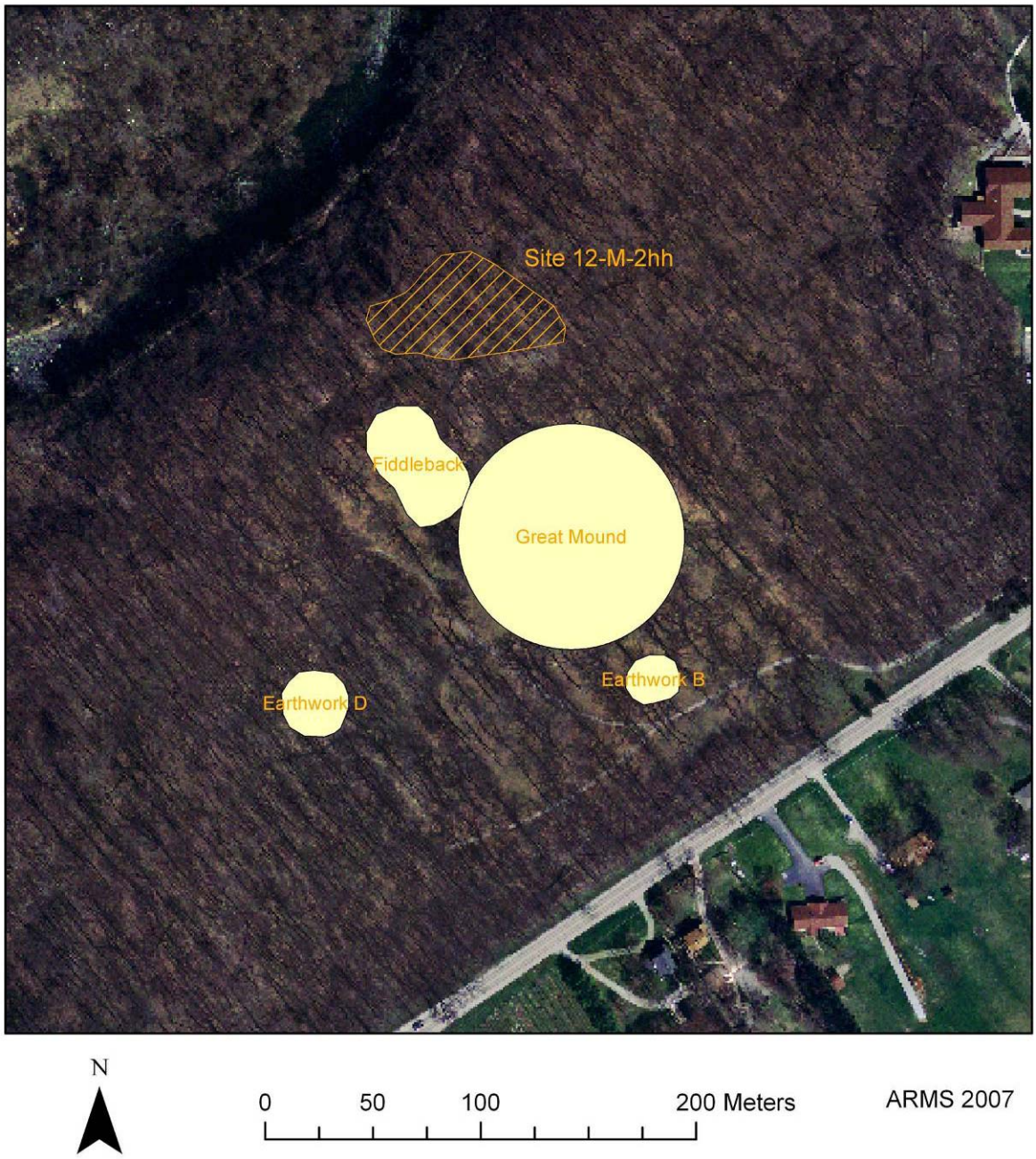


Figure 10. Location of site 12-M-2hh shown on a 2006 aerial map.

A 5 m grid was established over the site area (Figure 11). Beginning at the east end of the site and going to the west, shovel probes were excavated every 5 meters along the grid. A few of the areas on the grid were not excavated due to tree roots or large rocks. A total of 31 shovel test pits were excavated. Twenty-six shovel probes were excavated as small units that were 0.5 m^2 in size. The units were excavated in 10 cm levels and all the soil was screened. The remaining five shovel probes were approximately 0.5 m in diameter and excavated as one

level. All of the soil was screened.

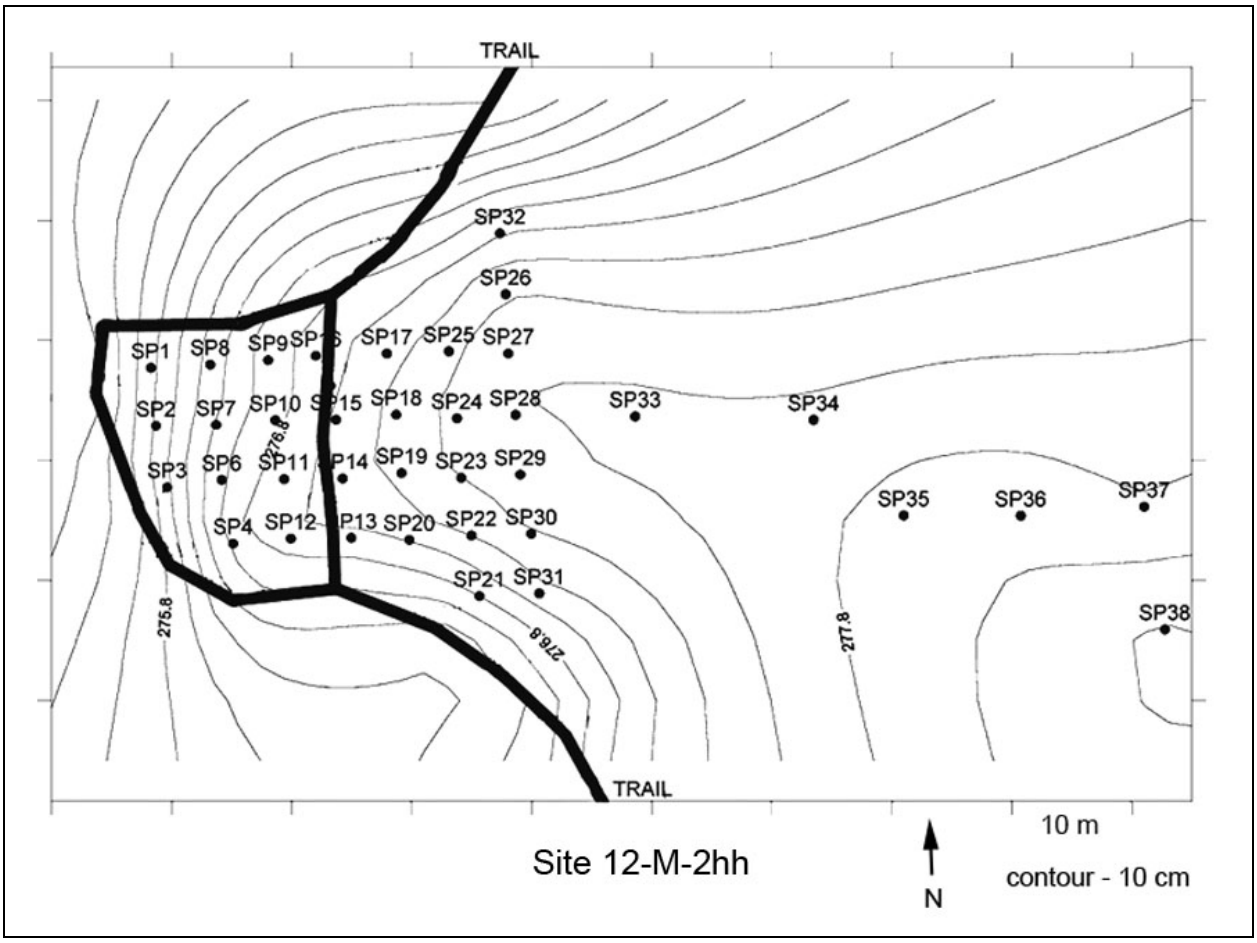


Figure 11. Shovel probe plan at 12-M-2hh.

Results

The limited testing of site 12-M-2hh recovered 194 prehistoric artifacts, 155 historic artifacts and 386 fire-cracked rocks (16.1 Kg) (Appendix B and D). The site dimensions were approximately 40 m NS x 80 m EW. The site limits seemed to mirror the natural topography. Erosion of the soils was noted at the eastern end of the site. Erosion occurred to the north, east and south at this end. The highest density of prehistoric artifacts and fire-cracked rocks were recorded in the central portion of the site (SP 10, 14-16, 18, 19, 24-27, 29, 30 & 32) where the soils were not eroded (Figure 12). The density of material was reduced to the west, and no more shovel probes were excavated. The original survey (Buehrig and Hicks 1982) did not extend the site limits further west.

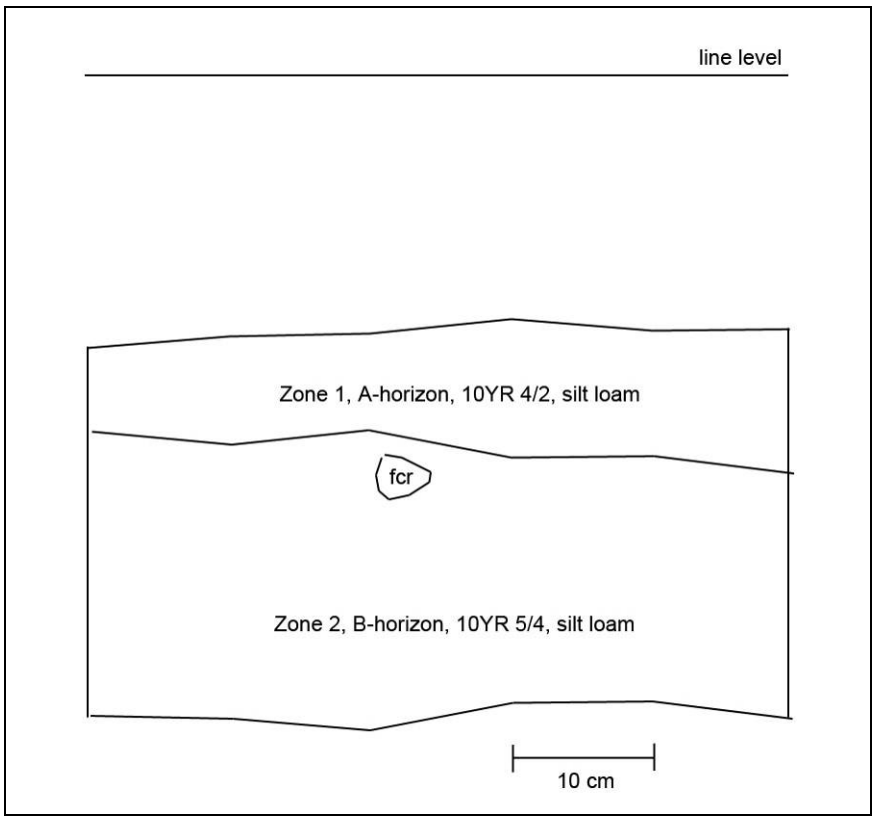


Figure 12. Profile of shovel probe 29.

Artifacts

The testing recovered 194 prehistoric artifacts and 386 fire-cracked rocks (Table1). No diagnostic lithic artifacts were recovered. The chert artifacts were dominated by locally available sources, but a few artifacts of Wyandotte, Attica and Allens Creek chert were recovered (Table 2). The prehistoric ceramics were the most diagnostic of any of the artifacts, but the temporal affinity was tenuous.

Two prehistoric sherds were recovered from level 2 in shovel probe 16. The sherds were small and had exfoliated or eroded surfaces. One sherd was part of an exfoliated rim. The rim appeared to be straight, and the lip was beveled to the exterior. The sherd had a sandy paste with a high amount of quartz. The other tempering was a granitic material with quantities of feldspars. The temper was all fine and 1 mm or less in size. The paste appeared well mixed, but the sherd had exfoliated. The other sherd was very eroded and of unknown form. The paste was similar, but the temper was larger, up to 3 mm in size, and was not as well mixed. The sherd was crumbly and 9.3 mm thick. The sherds appeared similar in paste and rim form to the Early/Middle Woodland ceramics recovered from the mounds within the park (Vickery 1970, Kolbe 1992) and regional earthworks (McCord and Cochran 2000). While the sherds were similar, they were too small to unequivocally assign them to the era of earthwork construction.

Table1 Prehistoric Artifacts from 12M2hh			
Identification	No.	Identification	No.
Unmodified flakes	174	Block	3
Modified flakes	6	Point fragment	1
Bipolars	3	Hammerstone	1
Cores	2	Pottery	2
Biface fragments	2	FCR	386 (16.1 Kg)

Table 2 Raw Materials from 12M2hh					
Identification	No.	%	Identification	No.	%
Laurel	47	24.6	HD Wyandotte	1	0.5
HT Laurel	34	17.8	Attica	4	2.0
HD Laurel	4	2.0	HT Attica	1	1.0
Fall Creek	21	11.0	HT Allens Creek	1	1.0
HT Fall Creek	17	8.9	Unknown	17	8.9
HD Fall Creek	2	1.0	HT Unknown	2	1.0
Glacial	19	9.9	HD unknown	2	1.0
Wyandotte	19	9.9			
HT = heat treated HD = heat damaged					

The testing also recovered 155 historic artifacts from the site area (Appendix B). The majority of the historics were made up of container glass in green, amber, clear and amethyst colors. Flat glass and one blue glass bead was also recovered. Seventeen pieces of ceramic were recovered. The most interesting ceramics were one piece of flow blue transferprint whiteware and one piece of polychrome transferprint whiteware. Only one brick fragment was recovered. Metal artifacts recovered consisted of wire nails, gun shells and two “1919" pennies. The

historic materials were most likely debris that accumulated beginning with the Union Traction Company era of the early 20th century through the present park era.

Features

Two features were recorded during the testing. Feature 1 was found in shovel probe 16. Near the center of the unit in level 2 a chunk of charcoal was encountered surrounded by a lighter or grayish soil (Figure 13). The charcoal was not in a pit or post mold and no burning was apparent. The feature was simply a deposit of charcoal. While the prehistoric pottery was recovered from this unit, it was not apparently associated with the charcoal. Twenty-one fire-cracked rocks were recorded from the unit.

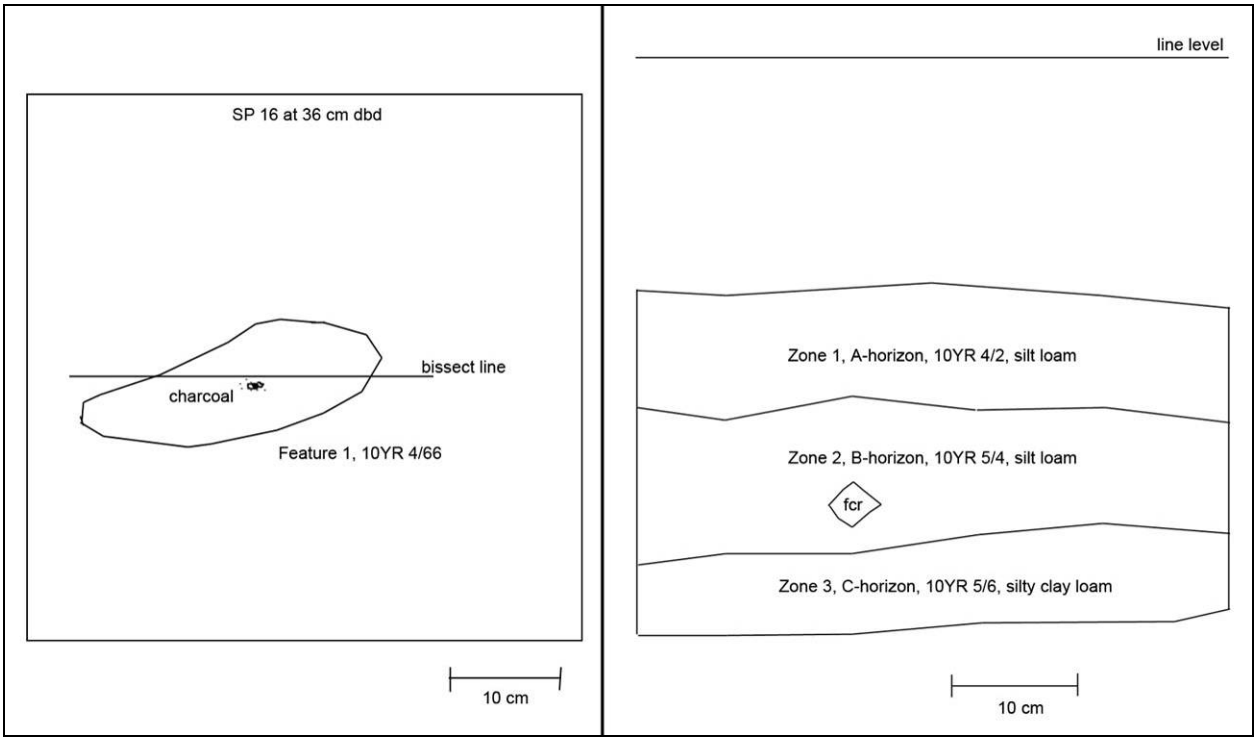


Figure 13. Plan of Feature 1 and profile of shovel probe 16.

Feature 2, was defined as a fire-cracked rock concentration in shovel probe 30. In level 2, 17 fire-cracked rocks were pedestaled to determine any patterning (Figure 14). None was discerned. The fire-cracked rocks were ubiquitous throughout the level. Fire-cracked rocks were found scattered throughout almost every shovel probe. The central portion of the site had the highest density of fire-cracked rock. Shovel probes 16, 19, 24, 25, 27, 10 and 32 all had over 20 pieces.

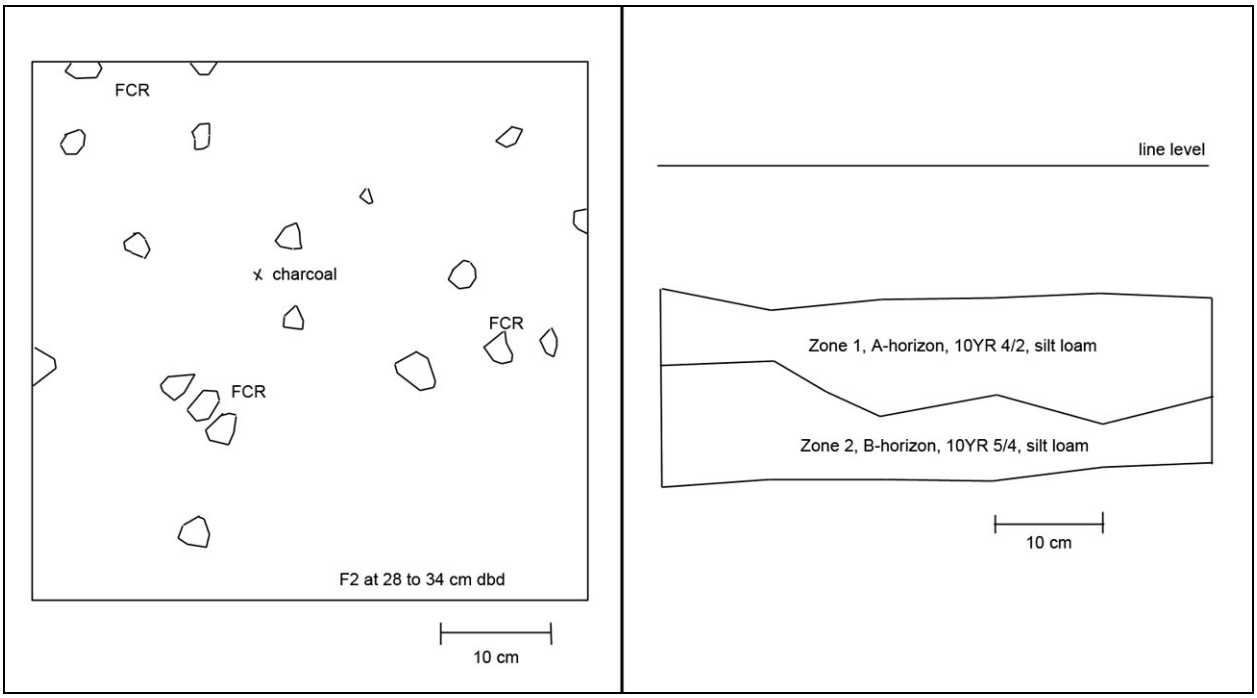


Figure 14. Plan of Feature 2 and profile of shovel probe 30.

Conclusions

The testing of site 12-M-2hh was very limited. The 31 excavated shovel probes, tested only 0.25% of the site area. The density of materials was found to be much higher than originally reported by Buehrig and Hick (1982) possibly as a result of screening. The testing recovered 25 artifacts and 49 fire-cracked rocks per 1 m^2 tested. The testing did not recover any diagnostic lithic artifacts, but the 2 ceramic sherds indicate a Woodland component of the site. There was a possibility that these sherds were directly related to ceramics recovered from other regional earthworks. The density of fire-cracked rock and the charcoal feature suggested that there was a potential for other aboriginal features.

While some erosion of the site boundaries has occurred, the testing demonstrated that site 12-M-2hh is a substantial habitation with intact cultural material. The potential of an Early/Middle Woodland habitation closely associated with the earthworks is captivating and should be further explored to define the temporal affiliation(s) of the site. This project excavated less than 1% of the site area, so the site has not been adequately tested to determine its significance. The site appears to contain significant deposits, but further archaeological assessment of the site is recommended.

12-M-2a - The Great Mound

The Great Mound was the largest earthwork in the southern complex and was composed of a ditch and bank enclosure and a small mound located on the central platform. In 1987, a 2 m x 2 m unit was excavated in the ditch of the Great Mound on the southern side and the west of the gateway (Cochran 1987:16)(Figures 8 & 9). The unit was terminated before it reached the original bottom of the ditch, but at least 30 cm of historic fill was documented. The majority of the artifacts recovered were from broken container glass (Cochran 1988:23), but a few prehistoric lithics were also found. The unit recovered 13 flakes and 1 core. The prehistoric artifacts were found in the lower levels of the excavation, but were still mixed with historic remains. In total, the 1987 unit recovered 14 prehistoric lithics, 563 pieces of glass, 23 pieces of metal, 4 historic ceramic fragments, 6 brick fragments, 3 pieces of shell and 3 fire-cracked rock (ARMS #87.26). Since, the original bottom of the ditch was not reached in 1987, another unit was excavated in 1999.

We attempted to relocate the 1987 unit to reopen it, but when the unit was not re-located, a new 1 m x 1 m unit (99A1) was placed in the same proximity in the ditch of the Great Mound (Figure 15). Since the 1987 unit had documented historic fill in the ditch to over 30 cm deep and had recovered an artifact sample from the fill, the first 30 cm of dirt in the 1999 unit was not screened. The remainder of the unit was excavated in 10 cm levels with all soil screened.

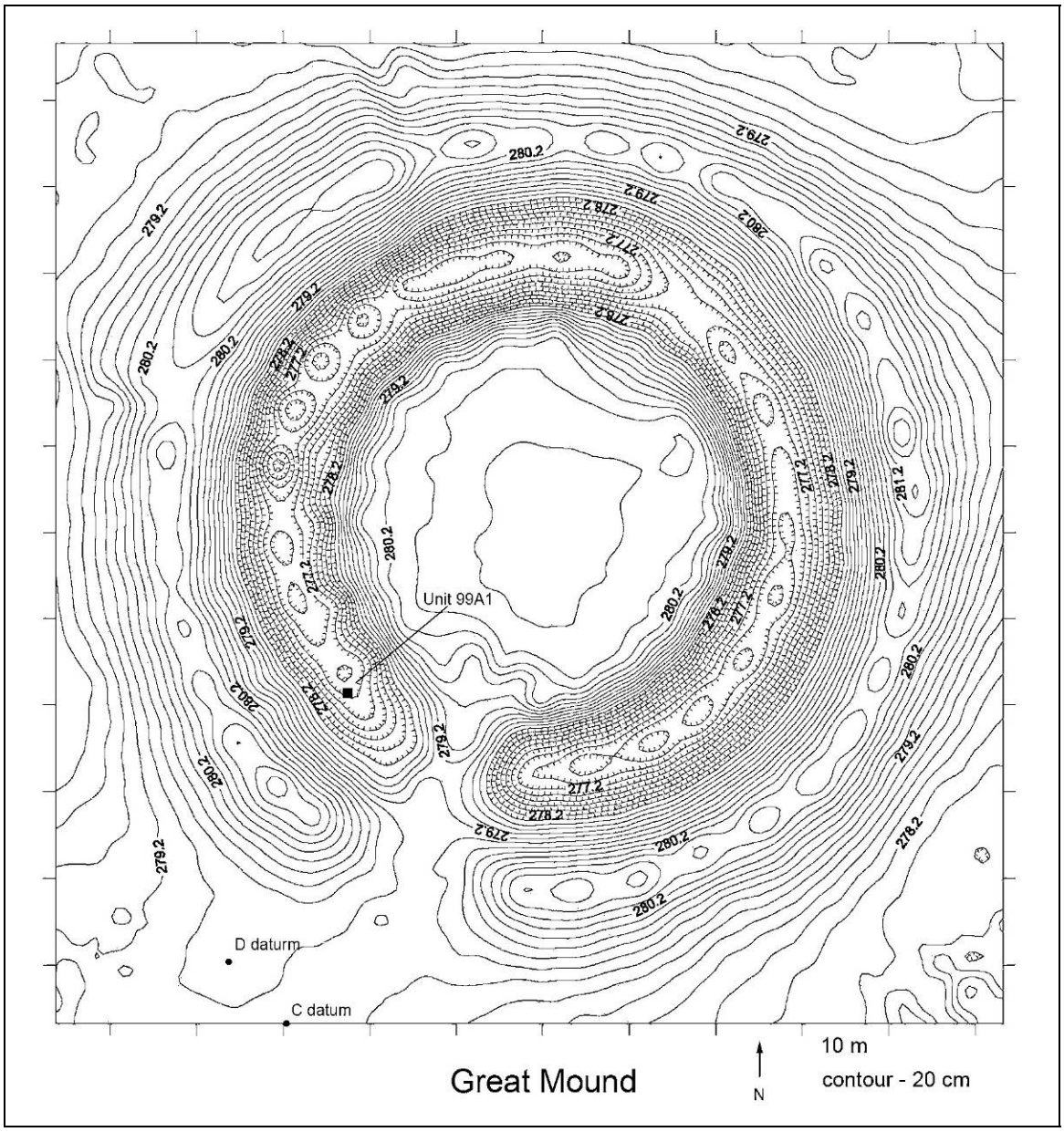


Figure 15. Location of unit 99A1.

Results

The 1m x 1m unit (99A1) excavated in the ditch of the Great Mound did document the bottom of the original ditch. The bottom was located approximately 50 cm below the current ground surface (Figure 16). The ditch had been silted and filled in with soil primarily from the historic period. The fill was dark in color from organic buildup, had a silty clay loam texture and at the top of the fill a natural A horizon was apparent. The bottom of the ditch consisted of compact Pleistocene soil that was clay loam in texture. Historic artifacts were recovered in all but the last 10 cm of ditch fill.

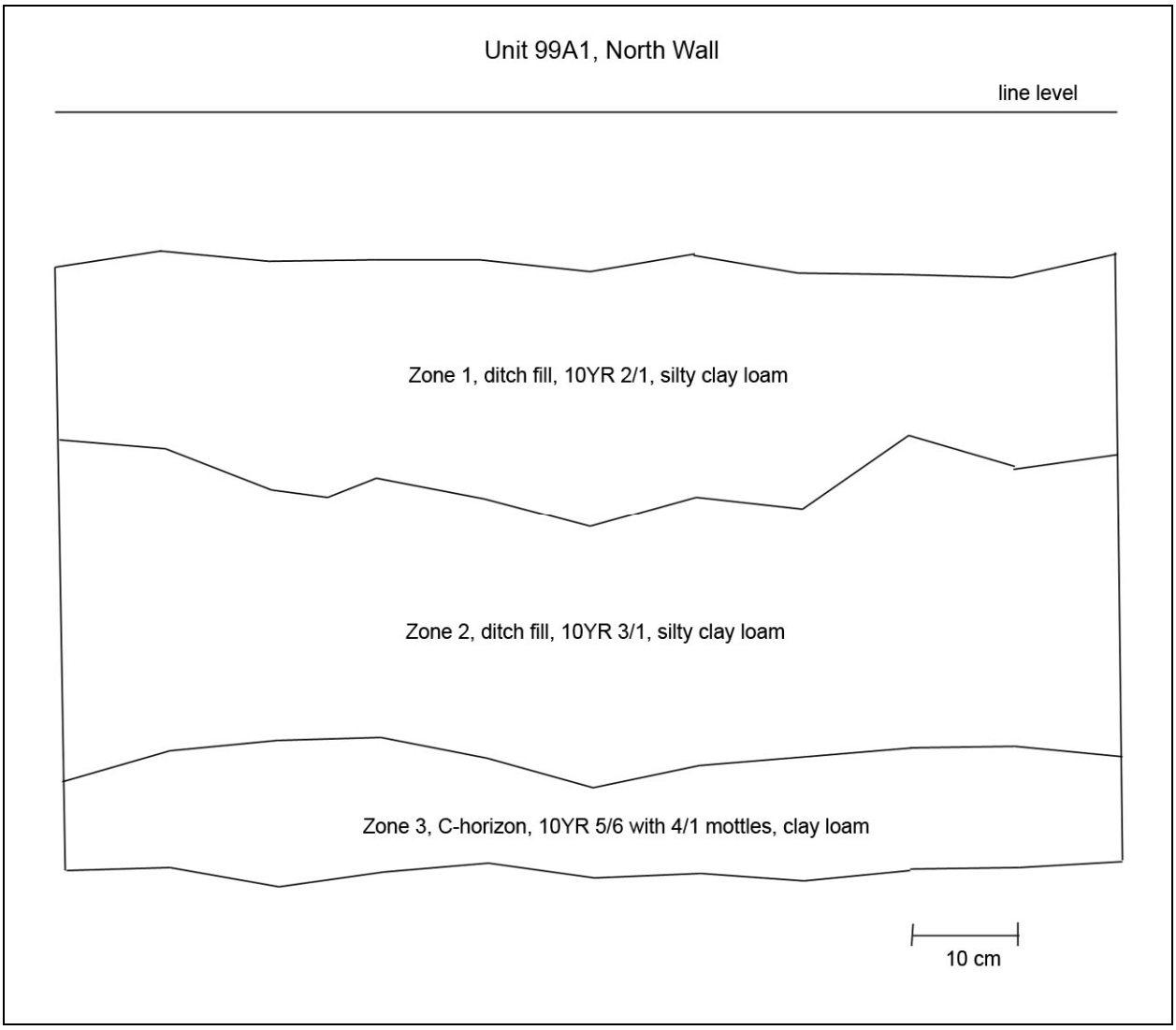


Figure 16. Profile of Unit 99A1.

No definitive prehistoric artifacts were recovered from the portion of the ditch fill that was screened (Appendix B). Only five fire-cracked rocks which may be prehistoric in origin were recovered near the bottom of the ditch. Small amounts of charcoal were found throughout the fill, but were not submitted for radiocarbon analysis because a clear prehistoric context could not be established. Six pieces of historic glass, an unidentified piece of metal and a metal clothing fastener were recovered from the fill (Appendix D). Some burned soil was also encountered in the mound fill.

Conclusions

The excavation of unit 99A1 documented the original bottom of the ditch. No features or clearly aboriginal deposits were encountered at the bottom of the ditch. The accumulation of historic fill between 30 and 100 cm is consistent with other enclosures that have been tested at

Anderson and in the region (Cochran 1987, Kolbe 1992, McCord 1998, McCord 1999). While post molds, artifact concentrations and charcoal deposits have been encountered within the ditches of other regional enclosures (Swartz 1976, Kolbe 1992, McCord 1998), none were found during this investigation. However, a $1m^2$ sample of the ditch was hardly adequate to be representative of the entire ditch structure of an enclosure that is approximately 380' in diameter. Aboriginal deposits may exist within the ditch structure, even though none were documented by this project.

The original depth of the ditch of the Great Mound enclosure on the southern side has been documented. Testing in other portions of the ditch would be necessary to determine if this depth of fill occurs comparably throughout the ditch. The eastern side of the ditch has historical retained water during the wet periods in spring and summer and may be due to differences in elevation, fill depth or fill matrix. It would also be interesting to obtain a cross section of the ditch at some point to further document erosion and the original morphology of the ditch. Continued testing efforts in the ditch of the Great Mound could add particular information on the aboriginal construction and use of the structure, as well as documenting natural and historic cultural impacts.

12-M-2b

Enclosure 12-M-2b is a small circular structure located to the south of the Great Mound. The structure is roughly 15 meters in diameter and consists of a ditch structure with a low embankment wall (Figure 8). This is contrary to Cox's (1879:130) description that the earthwork had no ditch, but only a bank. The structure also has two reported gateways. The original depth of the ditch was approximately 1 meter below the present ground surface at the eastern gateway (Cochran 1988).

Testing of 12-M-2b was conducted to determine if the western gateway actually exists. The eastern gateway was confirmed during the 1987 field school. It was also discovered that the eastern gateway was added over the ditch and, therefore, after the construction of the enclosure (Cochran 1988:19). A 1 m x 1 m unit (99B1) was excavated on the north side of the western gateway incorporating a portion of the ditch and assumed gateway (Figure 17).

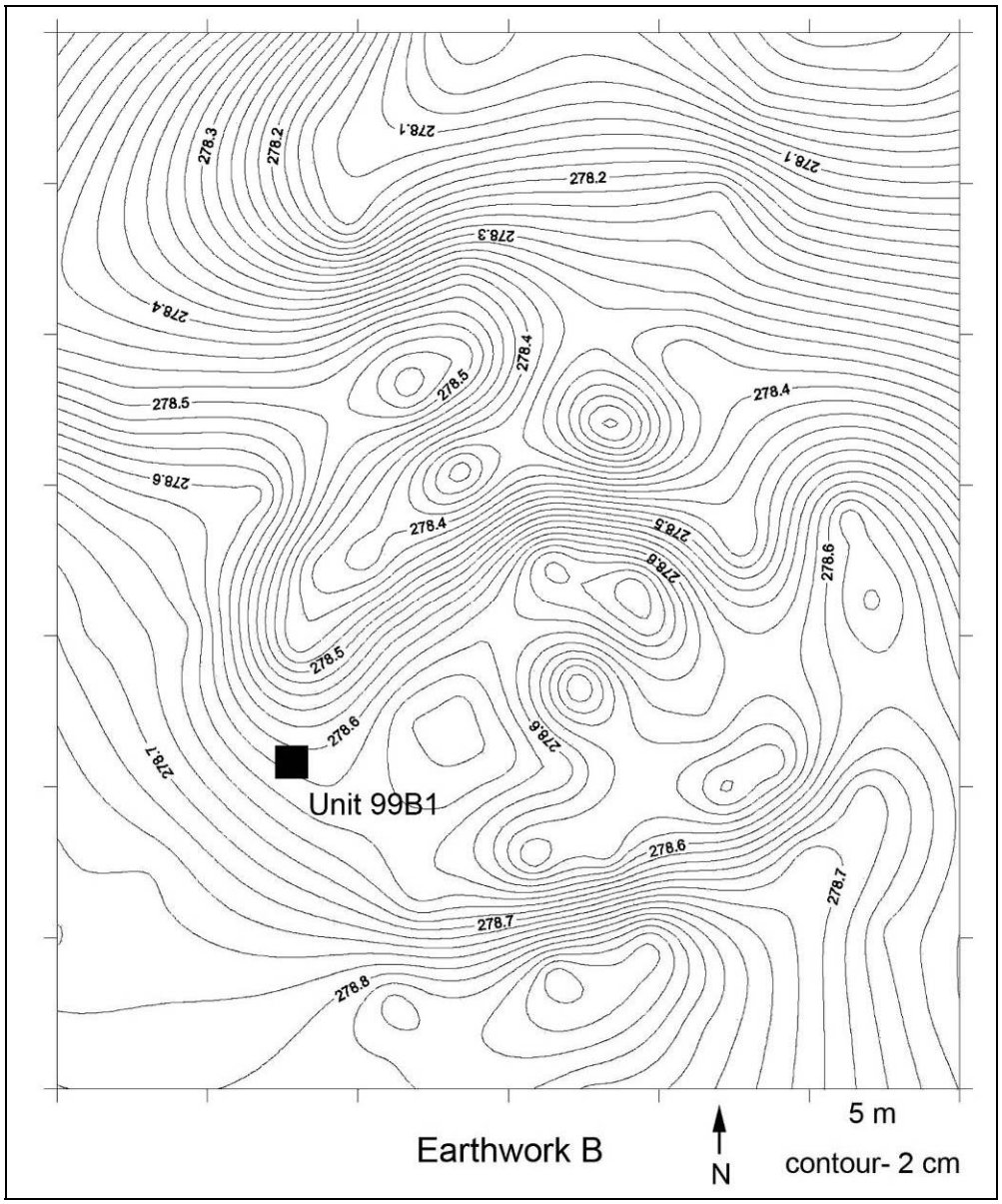


Figure 17. Location of unit 99B1.

Results

The excavation of unit 99B1 confirmed the existence of a western gateway. The gateway area was an unaltered, natural soil while the area of the ditch was filled in with eroded sediment (Figure 18). The western gateway was constructed by leaving the area intact and excavating soil to either side to create the ditch. The bottom of the ditch within the confines of the unit was approximately 30 below the present ground surface, but the profile showed that the depth of the ditch was still angling downward. It is dubious the ditch reached 1 meter in depth as was reported at the eastern gateway.

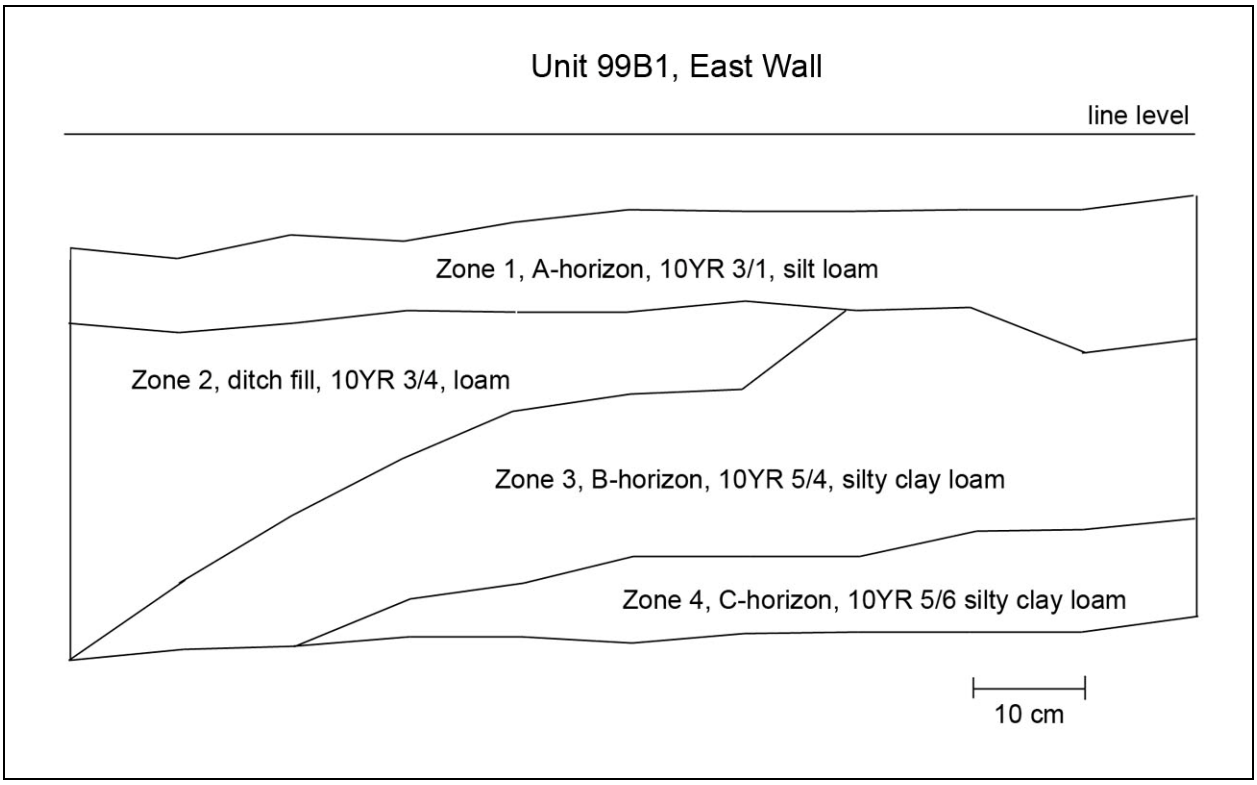


Figure 18. Profile of Unit 99B1.

The only materials recovered during the excavation were 1 piece of glass (from level 1), 4 fire-cracked rocks and small flecks of charcoal (Appendix B). No features were documented.

Conclusions

The excavation of unit 99B1 supported historic documentation of enclosure 12-M-2b having two gateways. The western gateway, since it was an unaltered area, was original to the enclosures construction. The eastern gateway was added at a later date by filling in that portion of the ditch. The difference in gateway construction may relate to the disparity of the depth of the original ditch on the east and west sides.

Unfortunately, the enclosure is still not documented by radiocarbon dating. The excavations have found that a sequence of construction did occur at this unique enclosure. Radiocarbon data is very important for placing this structure within the earthwork complex construction sequence. Dating this enclosure may help to explain why it has one original and one additional gateway. While past investigations have met with disappointing results in obtaining carbon suitable for dating, future efforts must pursue this goal.

12-M-2e

Structure 12-M-2e was reported as a small panduirform enclosure west of the Great Mound (Figure 6). A park trail cuts across the eastern end of the feature and most of it is located in secondary growth (Buehrig and Hicks 1982:49). The 1987 field school excavated 10 systematic auger probes across the feature. The auger probes revealed a natural soil profile, and the feature was not believed to be an aboriginal construction (Cochran 1988:19).

Testing at this structure was conducted to better assess the origin of this feature. The development of soil horizons is a continuous process and can occur within 2,000 years. An altered, but developed soil profile may be difficult to determine from auger probes. A 1m x 2m unit was placed on the eastern end of the feature incorporating the supposed central platform and ditch (Figure 19).

Figure 19. Locations of units 99E1, 99I1, 99K1 and the potential location of Earthwork K.

Results

The reported earthwork, 12-M-2e, was confirmed as a natural feature. The feature was not an aboriginal construction. The excavation unit (99E1) encountered an unaltered, naturally developing soil profile (Figure 20). The supposed ditch area contained dark/organic soil and appeared to be an old drainage channel. Because most of the feature was located in secondary growth, it was hard to distinguish the topography. It appeared that the structure was a feature of the glacial moraine and at the headwaters of a small drainage that flows to the west.

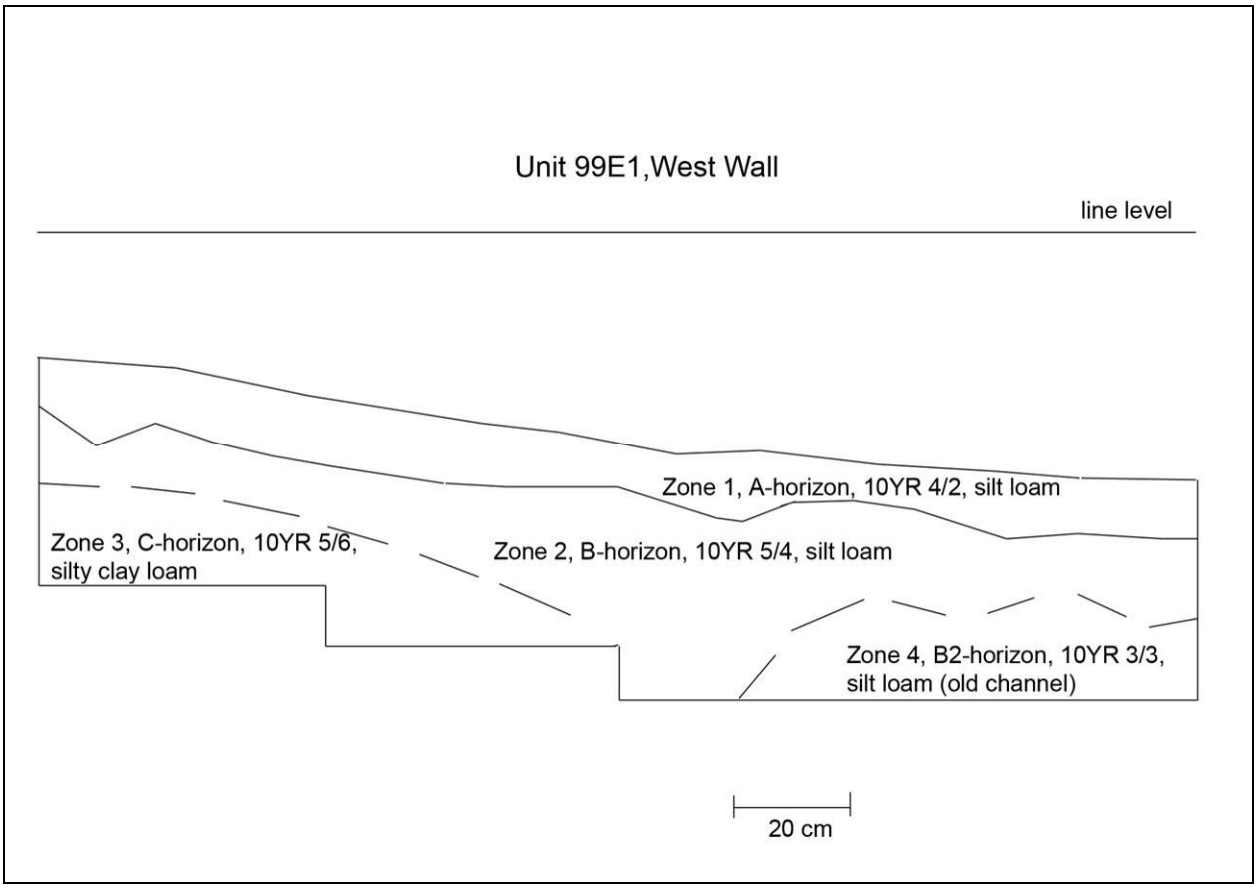


Figure 20. Profile of Unit 99E1.

Even though the feature was natural a few artifacts were recovered from unit 99E1 (Appendix B). In total, the excavation recovered 9 lithic flakes, 23 pieces of coal slag, 3 pieces of glass, 1 fragment of metal, 19 fire-cracked rocks and flecks of charcoal. Most of the historic and prehistoric artifacts were recovered near the surface, but 2 flakes, 5 pieces of fire-cracked rock and most of the charcoal were encountered in the channel sediments.

Conclusions

The excavation of unit 99E1 documented that the supposed earthwork 12-M-2e was a natural feature. Unequivocally, the soils encountered by the excavation were not modified by aboriginal earthwork construction. No further archaeological assessment was recommended for this feature.

Fiddleback Enclosure - 12-M-2h

In April of 1999 while touring the site to plan this project, we recognized the shape of the Fiddleback enclosure was not a true figure-eight, panduriform or fiddleback shape. Instead, the enclosure appeared to contain a combined shape of a circular ditch and bank on the west end attached to a more rectangular ditch and bank on the east end. This observation inspired a question of if the east and west ends were constructed at the same time. Also, at the constriction of the embankment and ditch, the embankment was observed to be considerable higher than the rest of the embankment. The purpose for this was unclear. The central platform of the Fiddleback enclosure had been previously tested by IU and BSU (Vickery 1970, Kolbe 1992), but had never reached the original ground surface. The eastern end of the platform had never been tested.

Several areas in the Fiddleback enclosure were tested to obtain new information to further define the construction and use of the earthwork (Figure 21). Units were excavated in the western embankment, at the high point of the embankment at the constriction, and in the west and east ends of the central platform.

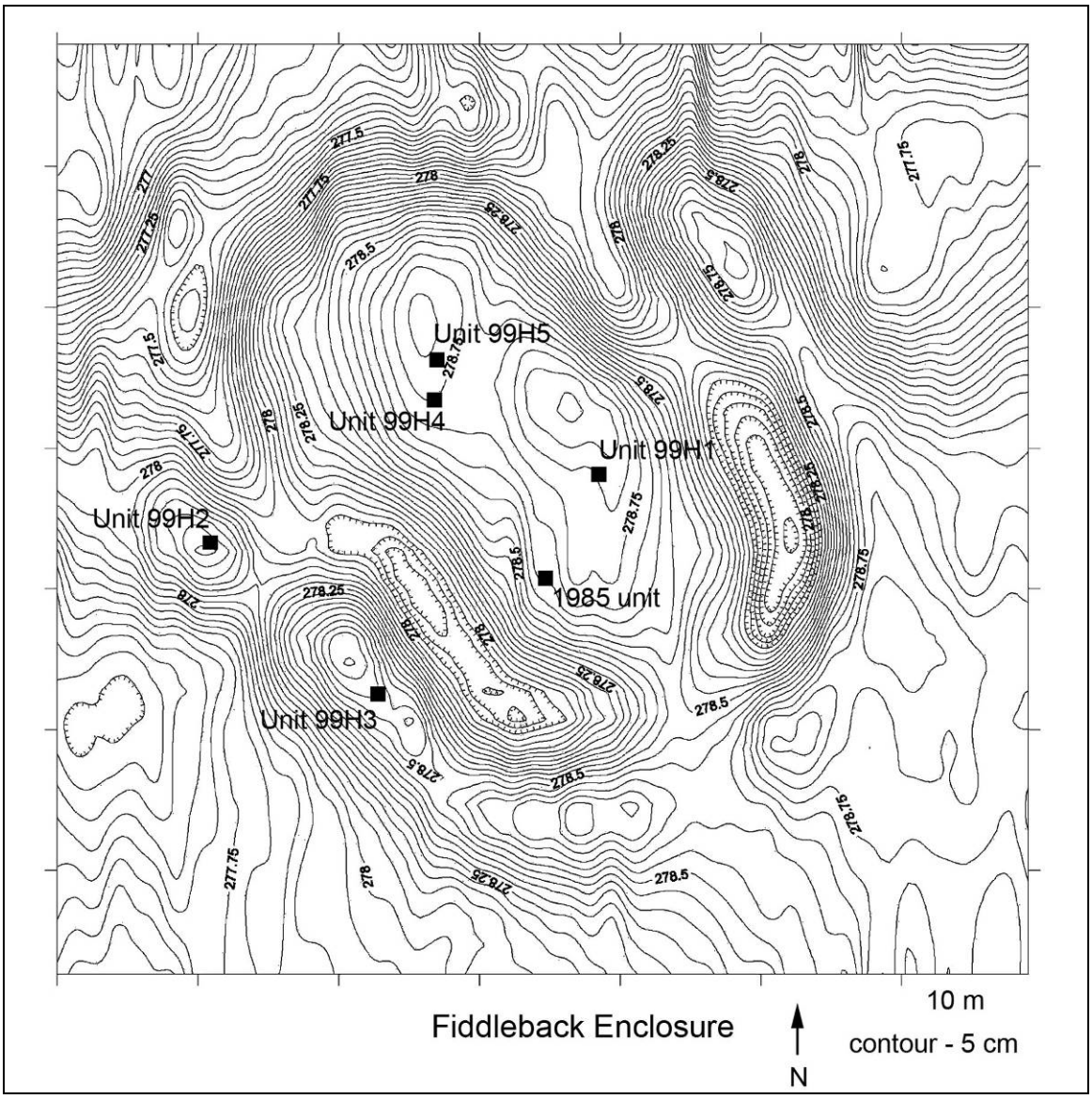


Figure 21. Location of Units excavated at Fiddleback.

Results

Unit 99H1

A 1 m x 1 m unit (99H1) was excavated on the eastern side of the central platform (Figure 21). The excavation revealed the existence of an artificial mound construction. While no mound was reported in this location in historic records, a rise in elevation on the eastern end of the central platform is apparent on a contour map (Figure 21). The soil strata and construction episodes encountered in the unit were very complex. The unit was terminated while still in aboriginal deposits because of the high probability of encountering intact human remains in the mound. The testing project was designed to avoid human remains. Since the strata recorded

were not a complete record of the mound construction and from a small $1m^2$ area, the interpretation of mound structure presented here should be considered tentative.

The excavation documented a natural subsoil on which a small mound had been constructed (Figures 22 & 23). Adjacent to the mound and excavated partially into the edge of the mound, a subsurface pit had been excavated (Feature 8) (Figure 24). The pit was filled with a soil very similar to the overlying midden, but contained more clay. The excavation was terminated at the top of the pit, since subsurface pits in mounds have produced human remains. On top of the mound an area had been burned, possibly with the intention of creating a burned clay platform (Feature 4) (Figure 25). The burning was approximately 17 cm thick and continuous on the northern side of the unit. The burning was interrupted in the center of the unit and picked up as a discontinuous and crumbly layer on the southern side of the unit. It was likely that the southern side was a displaced portion of the intact burning found on the north side and was mixed in with the midden fill. Above the burning and covering the rest of the unit was a midden deposit. The mound structure was not capped with a sterile loess cap that was present in most of the mounds excavated in the region (e.g. Vickery 1970, Swartz 1976, McCord 1994).

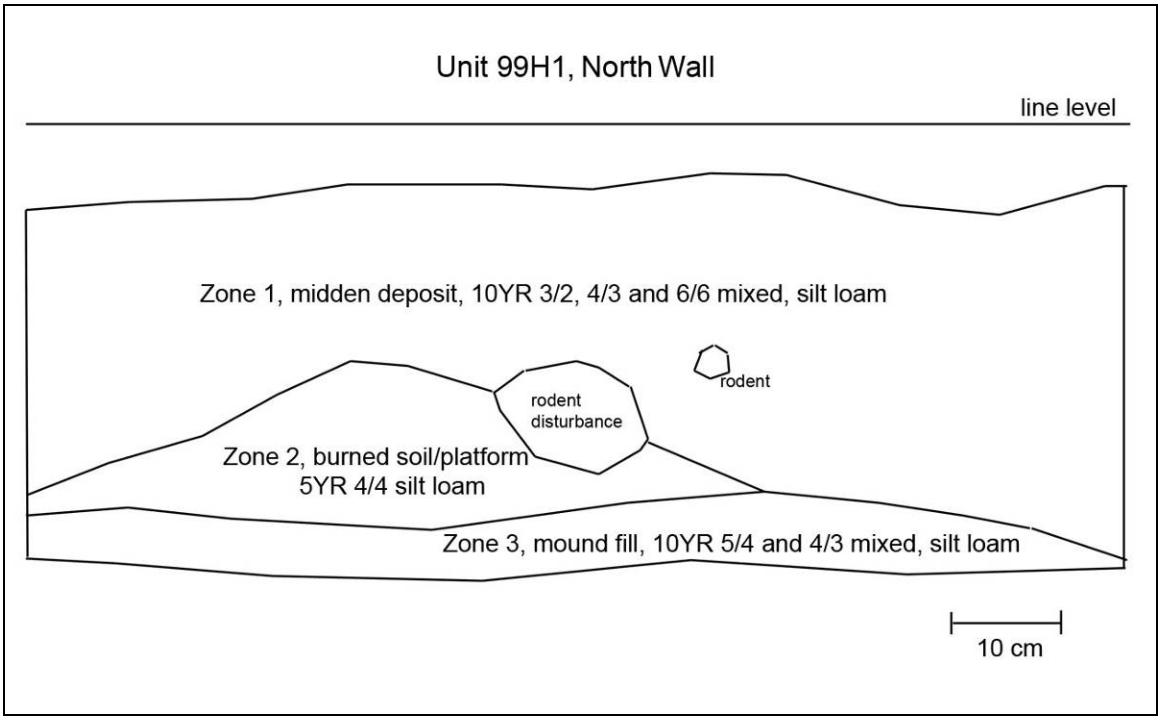


Figure 22. Profile of Unit 99H1, north wall.

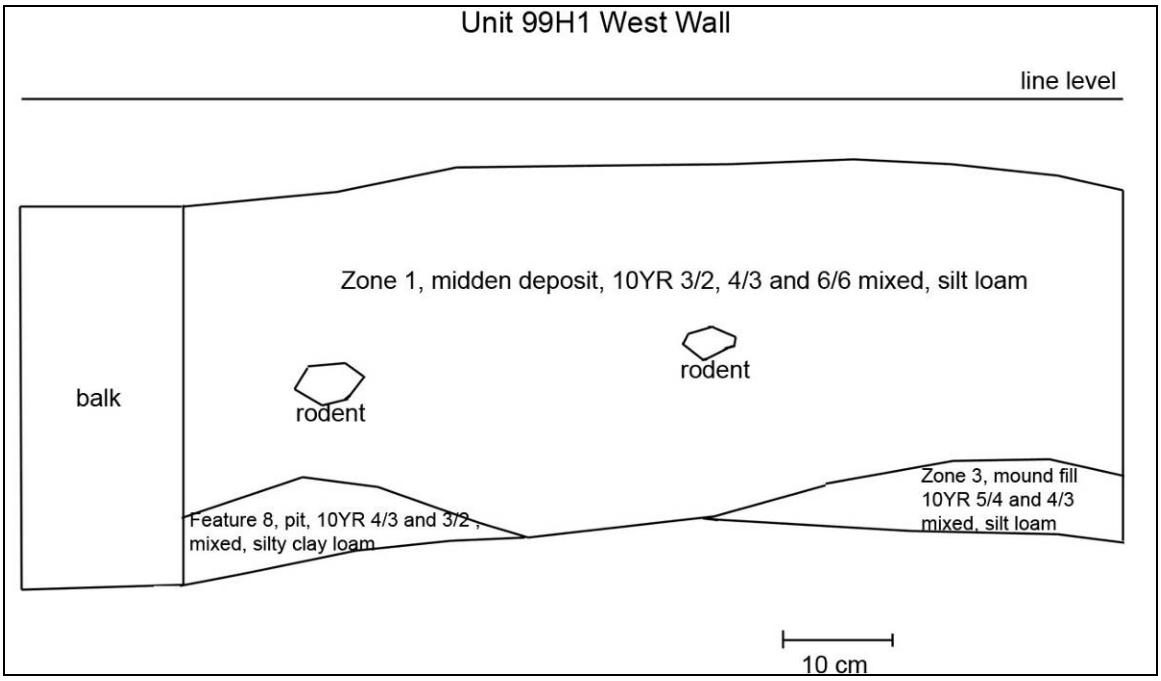


Figure 23. Profile of Unit 99H1, west wall.

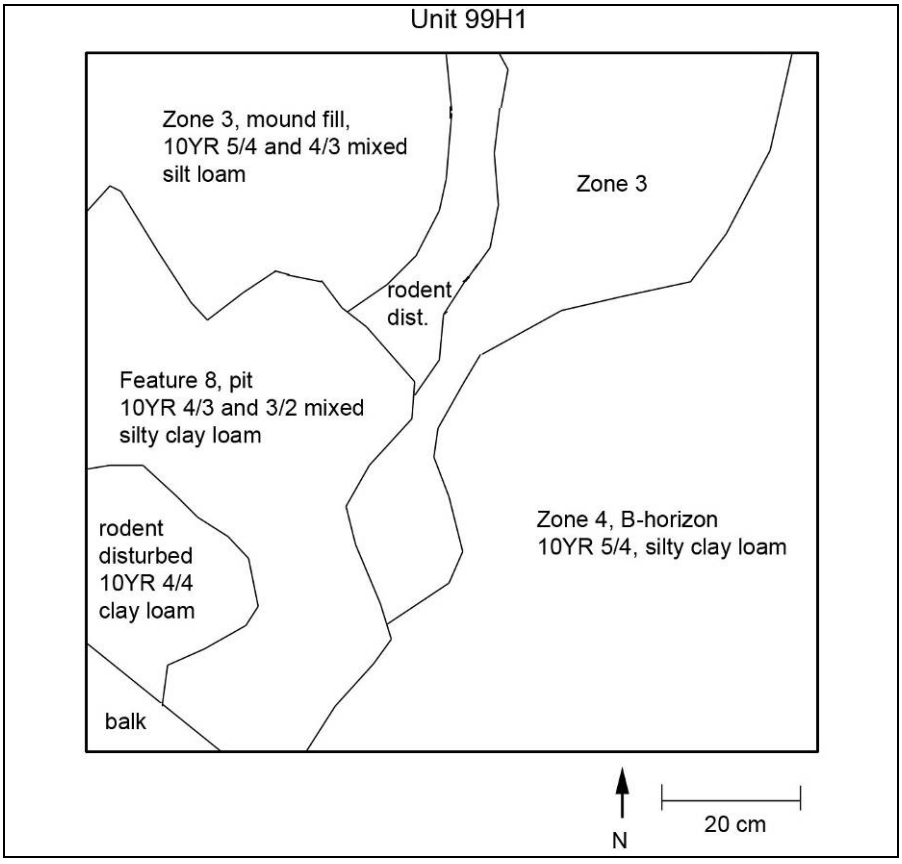


Figure 24. Plan map of Feature 8.

Figure 25. Photo of Feature 4, areas of pedestaled burned clay.

Most of the artifacts recovered by the excavation were from the midden deposit (Appendix B). The artifact assemblage consisted of 9 unmodified lithic flakes, 5 of which were heat damaged, 1 block flake and 8 pieces of pottery (Appendix D). Four of the sherds had a plain surface treatment, 3 were exfoliated and 1 was incised. The incised sherd was from a rim and displayed a portion of the New Castle Incised design. All of the sherds were grit tempered and fell into the range of sherds previously recovered from the Fiddleback enclosure (Vickery 1970, Kolbe 1992). The most prevalent materials recovered were burned clay (287.8 g) and bone (n=109). Most of the bone had been burned and varied between smoked and calcined. The identifiable fragments were faunal, but human remains may exist in the collection. A thorough identification of the faunal material needs to be undertaken. Also recovered were a few pieces of calcite powder, burned limestone and fire-cracked rock.

The materials recovered were consistent with materials recovered from the mound on the western side of the central platform (Vickery 1970, Kolbe 1992). No charcoal was recovered for radiocarbon dating, but the artifacts suggest a similar time frame for both the east and west mound constructions. The presence of New Castle Incised pottery in both areas inextricably links them.

Unit 99H2

A 1 m x 1 m unit was placed on the highest elevation at the constriction of the embankment on the south side of the Fiddleback enclosure (Figure 21). The unit was excavated to determine if the east and west halves of the enclosure had been constructed at different times and to ascertain any explanations as to why the embankment was higher in this area. The excavation found no evidence suggesting more than a single construction episode and no obvious reason for the higher elevation. A profile map of the top of the enclosure did provide some interesting data for the variance in height.

The stratigraphy documented in the unit suggested the embankment had been constructed by removing soil from the ditch and piling it to the outside. The soil profiles were basically a reverse stratigraphy of a natural profile (Figure 22). However, the soil horizons had been somewhat obscured by the soil development of 2000 years. The original ground surface was apparent at the bottom of the unit at approximately 65 cm below the current ground surface. The top of the original ground surface did not display a layer of carbon like that encountered under the embankment of the Great Mound (Cochran 1988). However, there was evidence that the area had been cleared. The remnants of a burned out tree (Feature 6) were found at the top of the original ground surface (Figure 23). The feature did not have a clear outline and consisted of diffuse areas of burned soil and charcoal.

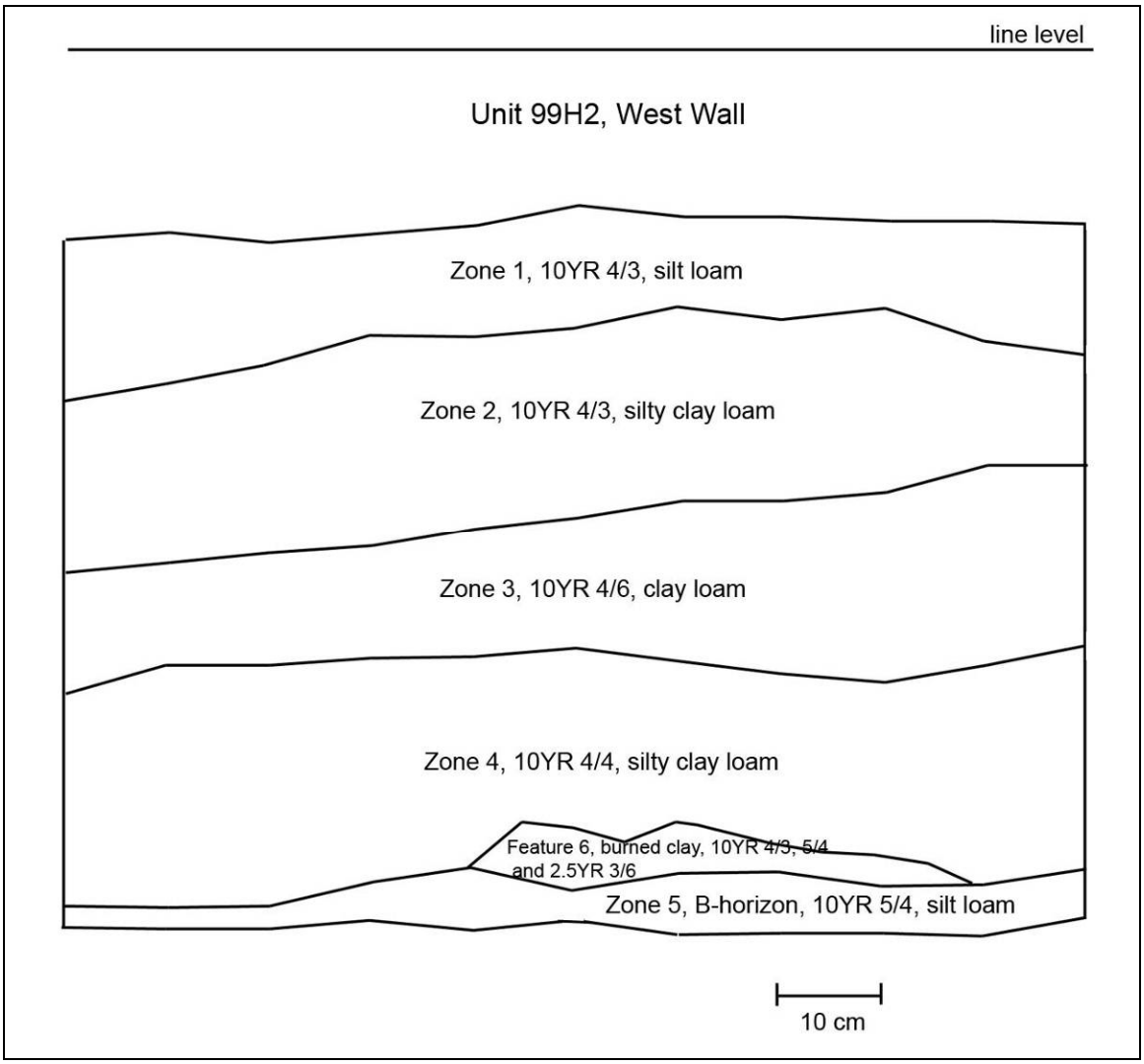


Figure 26. Profile of Unit 99H2.

Figure 27. Photo of Feature 6 at the bottom edge of the picture.

The excavation of this unit recovered very few artifacts (Appendix B). Historic materials consisting of 2 pieces of glass and 2 pieces of coal were recovered from the top 20 cm of the excavation. Prehistoric artifacts were found throughout the unit, but not in abundance. Only two unmodified lithic flakes, 1 core and 1 bipolar artifact were recovered in addition to 18 fire-cracked rocks (889 g).

Several small pieces of charcoal were encountered with the burned out tree feature. One of these was submitted for radiocarbon dating. The resultant date was 2030 ± 40 BP (Beta - 133452) or uncorrected 80 BC ± 40. Calibrated results at 2 sigma were between 155 BC and AD 60. The date only places the time that the tree was burned, it does not necessary date aboriginal activity. However, it is highly probable that the tree was burned in a effort to clear the forested area to allow for the construction of the enclosure. The date fits very well with a previous radiocarbon date from the embankment of 140 BC ± 90 (Cochran 1988) and of 120 BC ± 150 obtained from a post mold in the bottom of the ditch of the enclosure and the midden deposit of 120 BC ± 50 (Kolbe 1992) (Table 3) (Figure 28).

Table 3 Radiocarbon Dates from Eastern Indiana Earthworks					
Site	Sample Location	Conventional Age	Calibrated Age* 1sigma (2 sigma)	Sample No.	Reference
Anderson Complex	Great Mound post 3	2110 +/- 140 BP (160 BC)	235 BC – AD 5 (415 BC – AD 235)	M-2429	Vickery 1970
	Great Mound post 2	1720 +/- 130 BP (AD 230)	AD 133 – 433 (AD 50 – 599)	M-2428	Vickery 1970
	Great Mound embankment	2170 +/- 90 BP (220 BC)	363 – 155 BC (397 – 19 BC)	Beta-22129	Cochran 1988
	Great Mound post 2	2200 +/- 70 BP (250 BC)	369 – 196 BC (395 – 91 BC)	Beta-45955	McCord and Cochran 1996
	Great Mound log tomb	1910 +/- 80 BP (AD 40)	AD 17 – 181 (95 BC – AD 260)	Beta-52612	McCord and Cochran 1996
	Fiddleback embankment	2090 +/- 90 BP (140 BC)	205 BC – AD 4 (365 BC – AD 70)	Beta-22130	Cochran 1988
	Fiddleback ditch	2070 +/- 150 BP (120 BC)	214 BC – AD 73 (410 BC – AD 259)	Beta-27169	Kolbe 1992
	Fiddleback mound - W	2070 +/- 70 BP (120 BC)	176 BC – AD 1 (231 BC – AD 74)	Beta-27170	Kolbe 1992
	Fiddleback embankment	2030 +/- 40 BP (80 BC)	61 BC – AD 24 (120 BC – AD 57)	Beta-133452	Cochran and McCord 2001
	Circle Mound embankment	1955 +/- 75 BP (5 BC)	42 BC – AD 127 (116 BC – AD 232)	I-11, 848	Buehrig and Hicks 1982
	Circle Mound under s. mound	1880 +/- 60 BP (AD 70)	AD 71 – 214 (1 BC – AD 257)	Beta-2416	Buehrig and Hicks 1982
	Circle Mound under s. mound	1870 +/- 60 BP (AD 80)	AD 78 – 217 (AD 3 – 259)	Beta-2417	Buehrig and Hicks 1982
	Circle Mound embankment	1560 +/- 80 BP (AD 390)	AD 418 – 577 (AD 335 – 648)	Beta-24115	Buehrig and Hicks 1982
New Castle	Mound 4 east side -original ground surface	1980 +/- 50 BP (AD 30)	5 BC – AD 67 (109 BC – AD 129)	Beta-133450	Cochran and McCord 2001
	Mound 4 – burial area	1910+/- 50 BP (40 BC)	AD 23 - 137 (1 BC – AD 232)	Beta -133449	Cochran and McCord 2001
	Mound 4 west side - charcoal lens mid zone	1760 +/-40 BP (AD 190)	AD 230 – 340 (AD 208 – 385)	Beta-133451	Cochran and McCord 2001
	Mound 4 east side	1910 +/- 140 BP (AD 40)	55 BC – AD 257 (209 BC – AD 423)	M-1851	Swartz 1976
	Mound 4 west side, bottom	1940 +/- 160 BP (AD 10)	118 BC – AD 244 (262 BC – AD 412)	M-1852	Swartz 1976
	Mound 4 west side, top	1720 +/- 300 BP (AD 230)	0 – AD 638 (394 BC – AD 896)	M-2045	Swartz 1976
	Earthwork 6 Unit 6-1	860 +/- 50 BP (AD 1090)	Not included	Beta-127455	McCord 1999
	Earthwork 7 Unit 7-1	4070 +/- 60 BP (2120 BC)	Not included	Beta-127456	McCord 1999
Bertsch	posts in 180W20	1970 +/- 40 BP (20 BC)	1 BC – AD 72 (48 BC – AD 93	Beta-141813	McCord and Cochran 2000

Table 3 (cont.)
Radiocarbon Dates from Eastern Indiana Earthworks

Site	Sample Location	Conventional Age	Calibrated Age* (intercept date)	Sample No.	Reference
Fudge	Unit 2, deposit on original ground surface	1910 +/- 40 BP (AD 40)	55 BC – AD 28	Beta-211085	McCord 2006
	Unit 6, building episode	2020 +/- 40 BP (70 BC)	2 BC – AD 63	Beta-211086	McCord 2006
	Unit 9, deposit on original ground surface	1980 +/- 40 BP (30 BC)	AD 52 – 131 (AD 16 – 216)	Beta-211087	McCord 2006
White	fire area	1910 +/- 140 BP (AD 40)	55 BC – AD 257 (209 BC – AD 423)	M-2017	Swartz 1973
	fire area	1920 +/- 140 BP (AD 30)	63 BC – AD 254 (210 BC – AD 416)	M-2018	Swartz 1973
	primary mound 2	1860 +/- 200 BP (AD 90)	54 BC – AD 408 (236 BC – AD 576)	M-2015	Swartz 1973
	primary mound 1	1740 +/- 140 BP (AD 210)	AD 124 – 432 (1 BC – AD 600)	M-2016	Swartz 1973
	log tomb 1	1400 +/- 130 BP (AD 550)	AD 533 – 776 (AD 385 – 899)	M-2021	Swartz 1973
	timber	1490 +/- 130 BP (AD 460)	AD 423 – 658 (AD 245 – 780)	M-2019	Swartz 1973
	timber	1550 +/- 150 BP (AD 400)	AD 377 – 648 (AD 133 – 728)	M-2020	Swartz 1973
Windsor	near bottom	2020 +/- 70 BP (70 BC)	110 BC – AD 61 (202 BC – AD 1)	Beta-25224	Cochran 1992
	capping above rock	1960 +/- 40 BP (10 BC)	0 – AD 80 (43 BC – AD 125)	Beta-211083	
	capping 1.5 m above rock	2090 +/- 40 BP (140 BC)	166 – 85 BC (203 BC – 0)	Beta-211084	
Law Mound	1N1W - pottery	1990 +/- 40 BP (40 BC)	4 BC – AD 53 (93 BC – AD 86)	Beta-140072	McCord and Cochran 2000
Hayes Arboretum	square 15W3	2050 +/- 40 BP (100 BC)	111 BC – AD 1 173 BC – AD 28	Beta-141810	McCord and Cochran 2000
Waterworks	burial pit in 25W1	1820 +/- 60 BP (AD 130)	AD 125 – 256 (AD 66 – 348)	Beta-141811	McCord and Cochran 2000
Wolford	feature 5, 45W5	2010 +/- 50 BP (60 BC)	54 BC – AD 57 (165 BC – AD 81)	Beta-141812	McCord and Cochran 2000
Chrysler Enclosure	bottom of ditch	1790 +/- 40 BP (AD 160)	AD 208 – 258 (AD 127 – 345)	Beta-110202	McCord 1998

* Calibrated by CALIB v. 5.1, Reimer et al. 2004

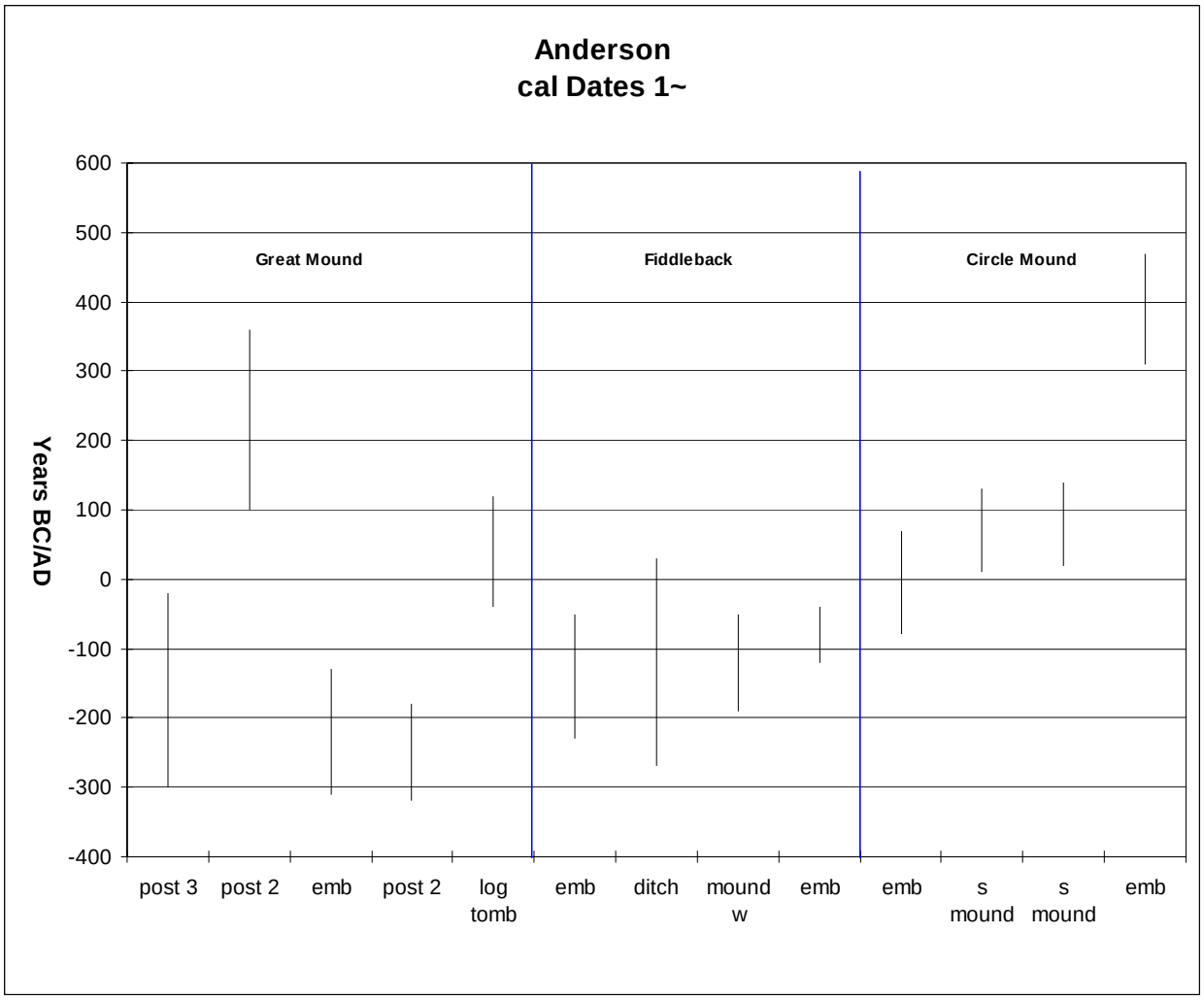


Figure 28. Radiocarbon dates from Anderson Mounds (calibrated 1 sigma, Reimer et al. 2004).

Unit 99H3

A 1 x 1 m unit (99H3) was excavated in the western embankment wall on the south side of the enclosure (Figure 21). The unit was excavated to compare it with existing data from the western embankment to determine if the two halves of the Fiddleback enclosure were constructed at different times. The data recovered was comparable with unit 99H2 and previous data from the western embankment. It was not indicative of more than one constructional episode.

The stratigraphy was very similar to unit 99H2 except for the zone of burning on the original ground surface (Figure 29). Once again deposits from the ditch were excavated and piled up in reverse order to construct the embankment, but time and soil development almost obscure the reverse layering. The embankment deposits were actually thicker or higher above the original ground surface in this unit than in unit 99H2. The embankment was approximately

80 cm high at this location. While the embankment is higher above the original ground surface, it has the appearance of being lower than the present ground surface at the constriction on the bank.

One possible explanation for this is that the western end of the enclosure was more built up. The enclosure was situated on the edge of ravine and while the natural topography slopes down, the embankment wall was relatively level. However, the previous excavation on the eastern end of the embankment was even higher, approximately 105 cm high above the original ground surface (Kolbe 1992). Judging the natural topography on the east end, it does not seem that it was built up. Perhaps, the area of the constriction and the location of unit 99H2 were on a naturally higher area, but that is not reflected in the current topography. The reason for the variance in the height of the embankment it not clear at this time, but it does verify one important aspect: the natural landscape was modified to suit the cultural and ideological needs of the constructors. The natural topography was not simply integrated into earthwork design, it was completely modified.

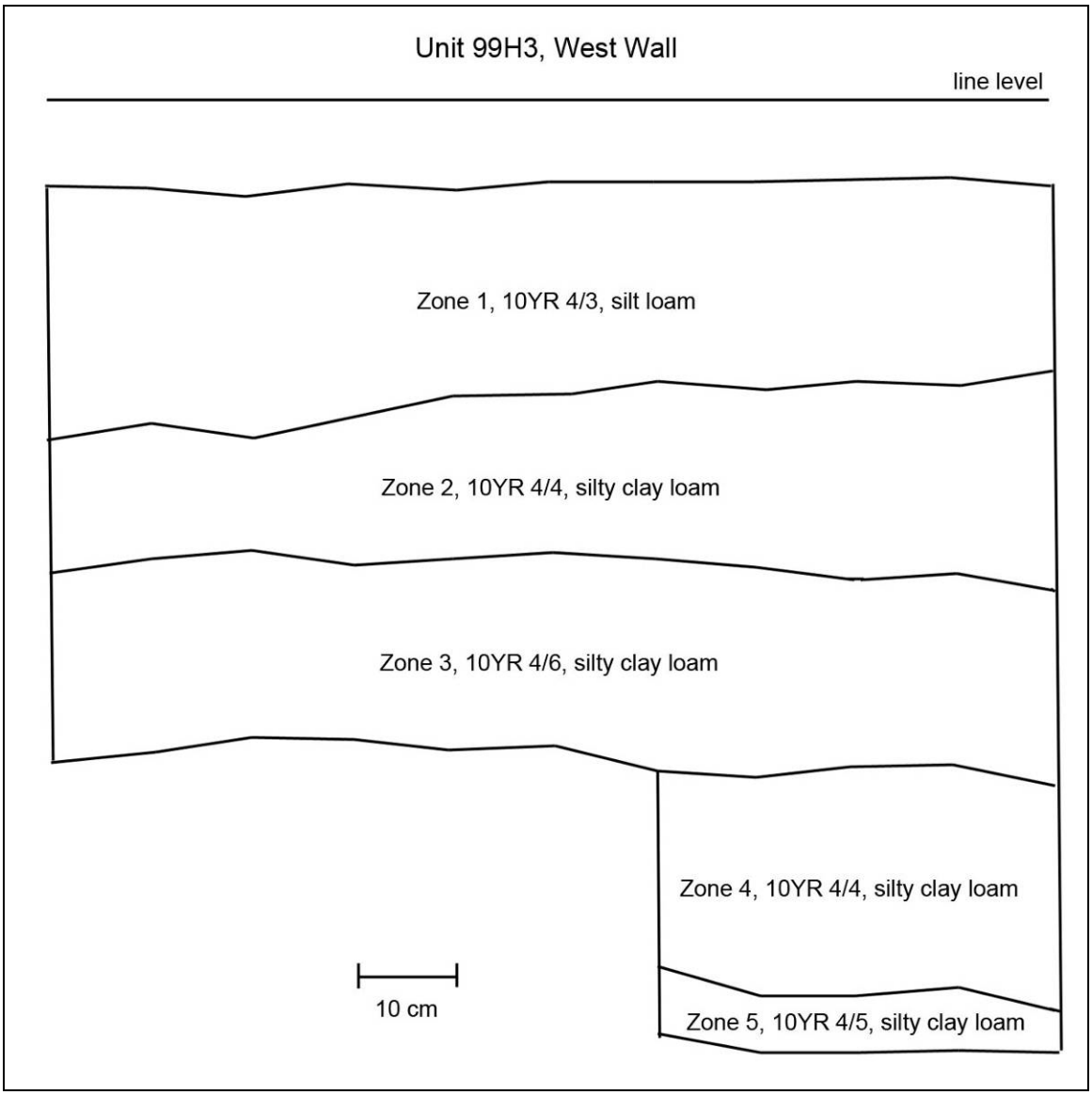


Figure 29. Profile of Unit 99H3.

Even fewer artifacts were recovered from this unit (Appendix B). One piece of glass and a hammerstone were found near the surface. Four fire-cracked rocks (591 g) were recovered from the middle of the embankment. One unmodified lithic flake was recovered near the original ground surface. One feature (Feature 3) was recorded in the unit but was not aboriginal in origin. It was a natural disturbance. No carbon was submitted for radiocarbon dating. The stratigraphy documented by previous excavations in the western embankment and that recorded from units 99H2 and 99H3 indicate that the embankment was constructed in one episode.

Unit 99H4

While attempting to relocate a unit excavated in 1988, in the western portion of the

central platform of the Fiddleback enclosure, a 1 m x 1 m unit (99H4) was partially excavated (Figure 21). We believed we had relocated a corner of the 1988 unit and proceeded to uncover the unit. It quickly became apparent that the unit was in undisturbed deposits, fortunately the soil was screened. A 1 x 1 m unit was laid out around the area of excavation and the unit was brought to level, recorded and then abandoned. The 1988 unit was found farther to the northwest.

Unit 99H4 was definitely located in an artificially constructed soil, but the excavation did not proceed far enough to really determine structure. There was a dark, midden A-horizon on the top followed by a lighter soil (Figure 30). Both strata contained artifacts, but the frequency of artifacts decreased with depth.

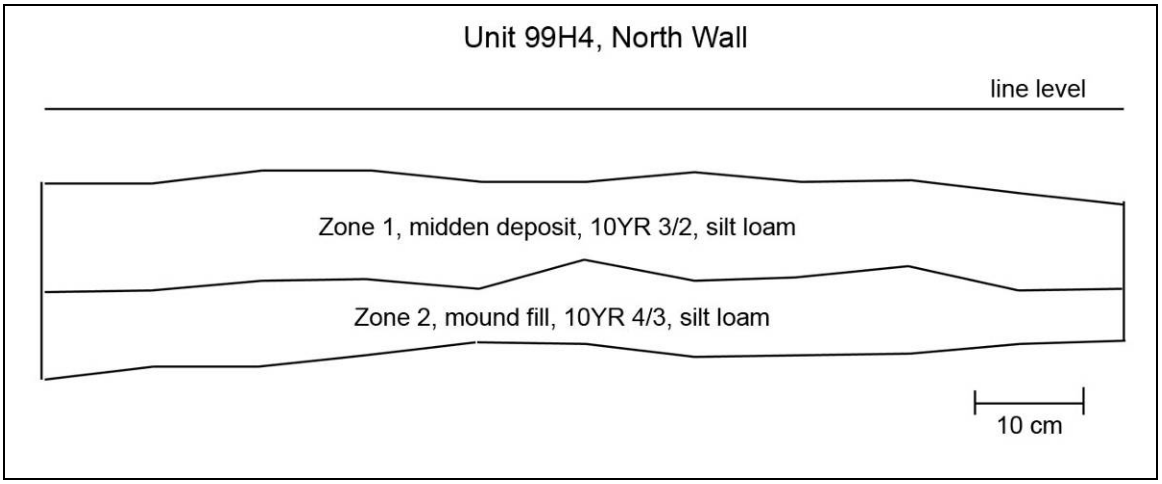


Figure 30. Profile of Unit 99H4.

Numerous artifacts were recovered, even with the small area excavated (Appendix B). Artifacts included 25 unmodified flakes, 1 block flake, 9 plain or eroded surface pottery sherds, 3 fragments of bone, 17 fire-cracked rocks (183.7 g), burned clay and charcoal. The deposits and the artifact content, except for fewer bone fragments, were very comparable with unit 99H1 and the 1988 unit (Kolbe 1992).

Unit 99H5

When the 1988 unit was actually relocated, the excavation of unit 99H4 was terminated and excavation was continued on the 1988 unit. A 1 m x 1 m unit (99H5) was excavated in the northeast corner of the previous 2 m x 2 m unit (Figure 21). The 1988 unit was only excavated to approximately 30 cm below the ground surface and a good profile of the construction of the mound was not obtained.

The excavation of Unit 99H5 began by removing the 1988 backfill. Plastic had been left in the base of the 1988 excavation so the base of the unit was easily identifiable. The new excavation began in a midden zone that had been documented in 1988, but was somewhat lighter in color (10YR 5/4). At a depth of approximately 45 cm below the ground surface the midden transitioned to a lighter colored natural B-horizon (Figure 31). The unit did allow for a clear profile of the midden deposits that creates the western mound on the Fiddleback platform. As previously recognized (Kolbe 1992, Cochran and McCord 2001) this midden deposit and the lack of a sterile capping episode make this mound structure unique in comparison with other excavated regional earthworks.

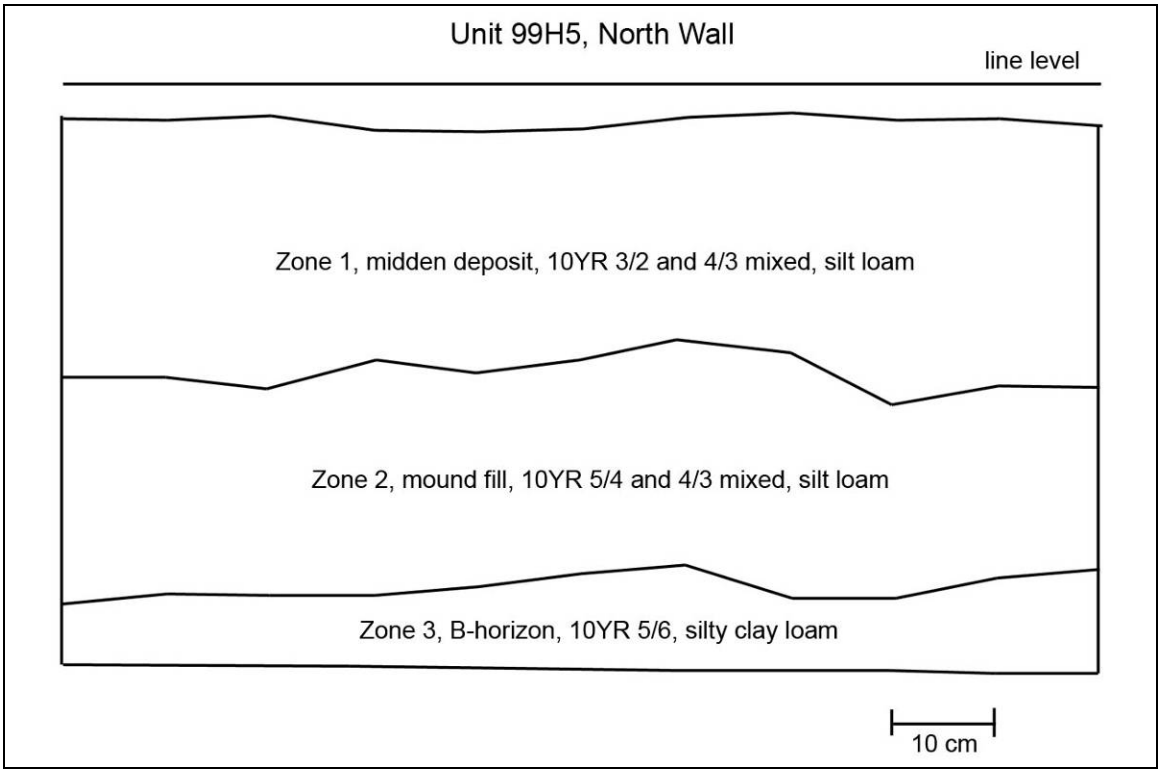


Figure 31. Profile of Unit 99H5.

A lighter artifact density was documented from the 1999 unit than the 1988 unit. The upper portions of the midden deposit seemingly contained more artifacts since several thousand artifacts including over 200 pieces of pottery, over 200 lithics, burned bone, burned clay and fire-cracked rock were recovered (Kolbe 1992). Artifacts from the 1999 unit included only 21

fragments of pottery, 13 lithic flakes, 10 fire-cracked rocks, over 100 fragments of burned bone, mussel shell, burned clay and charcoal (Appendix B and D).

1985 Unit

In 1985 during the Adena-Hopewell Rendezvous, a small test unit was excavated on the platform of the Fiddleback enclosure as a public archaeology program (ARMS accession files #88.105). The location of the unit and results of the excavation have not been previously reported and are therefore included here.

The 1985 unit was placed on a slope on the southeastern portion of the central platform, not in a mound structure (Figure 21). The unit was 2 x 2 m square and excavated between 13 and 24 cm below the ground surface (due to the slope). Lithic artifacts represented the majority of artifacts recovered including 34 flakes, two cores, one bipolar artifact, one biface, three fire-cracked rocks, four fragments of glass and one metal washer (Appendix B). A profile of the unit was drawn, but no accompanying descriptions were found. Based on the low number of artifacts, the midden soil encountered in units 99H1, 99H4 and 99H5 was not present on this area of the platform.

Conclusions

The excavations of the Fiddleback enclosure recovered more data on the construction and structure of the earthwork. An additional radiocarbon date was obtained from a burned tree at the original ground surface below the enclosure. The resultant 80 BC ± 40 corresponds with previous dates from the embankment and ditch. The embankment wall was apparently built in one construction phase. The rise in elevation on the eastern side of the central platform is an artificial construction and is consistent with the midden deposits recorded for the western mound. This midden deposit remains a unique feature in mound construction in the regional due to the lack of a sterile soil cap. The unit excavated in 1985 indicates the midden deposit does not extend across the entire central platform and it was likely confined to the higher elevations.

12-M-2i

Site 12-M-2i was reported as a small mound surrounded by circular embankment with no ditch or gateway located to the northwest of the Great Mound (Cox 1879:130) (Figure 6). The amusement park that once existed in the park reportedly caused damage to earthworks 12-M-2e, 12-M-2i and 12-M-2k (Buehrig and Hicks 1982:33). In the location of earthworks 12-M-2i and 12-M-2k a pavilion and roller coaster were reported (Buehrig and Hicks 1982:33-34, 65)(Figure 32). Earthwork 12-M-2i had not been verified since it was initially reported.

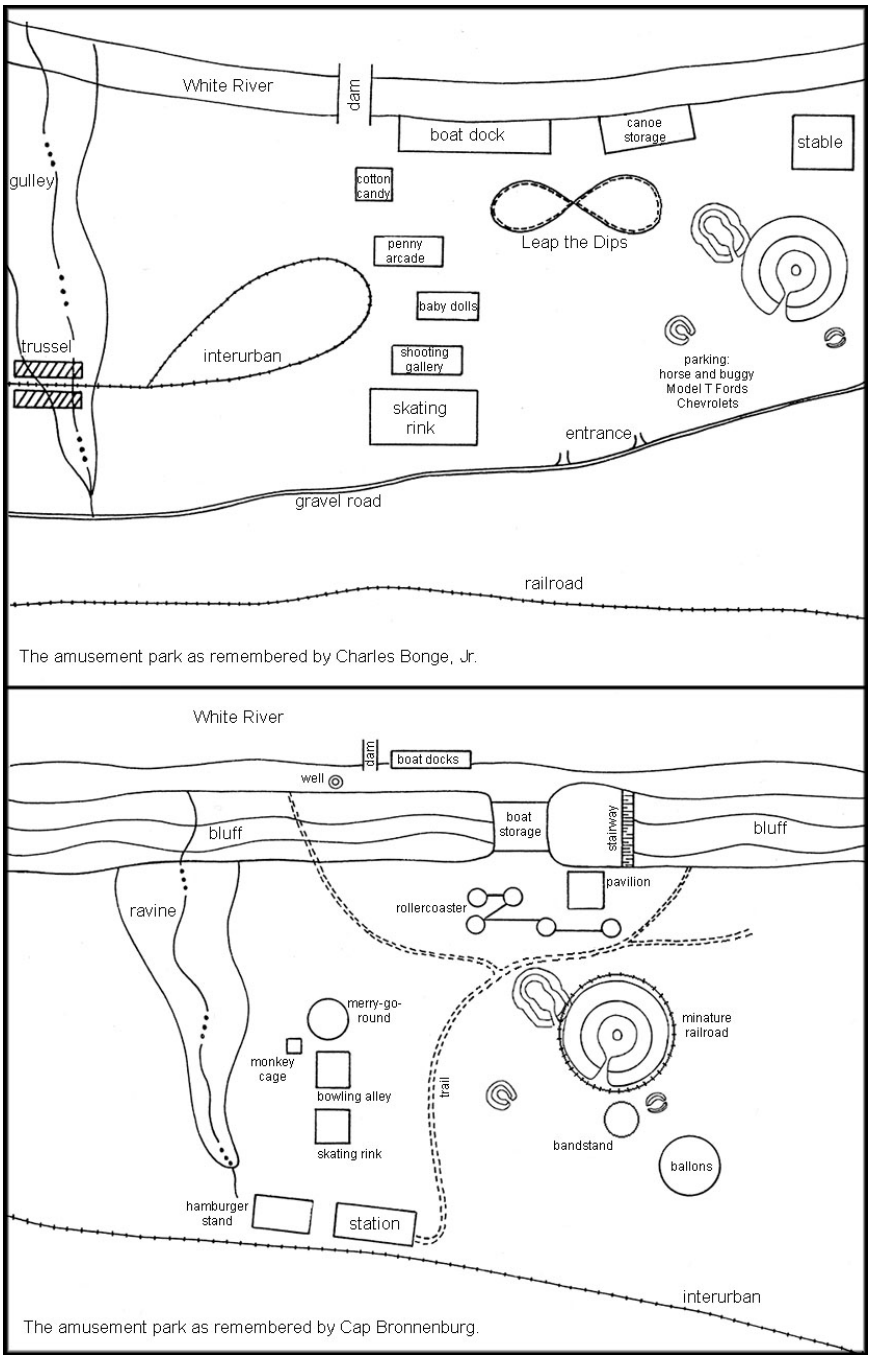


Figure 32. Maps of the amusement park (after Buehrig and Hicks 1982). North is to the top of the figure.

In April of 1999, this area was inspected before the vegetation had emerged. In the location of this reported earthwork, an apparent mound was identified. No evidence of the enclosure was found. Limited testing was conducted to determine the nature of the surface feature. A 1 m x 1 m unit was excavated in the south central portion of the feature (Figure 19).

Results

The excavation of the unit (99I1) was inconclusive. The mound-like structure was definitively an artificial construction, but it was likely the result of historic activity (Figure 33). This does not necessarily negate the existence of an artificial prehistoric mound at this location.

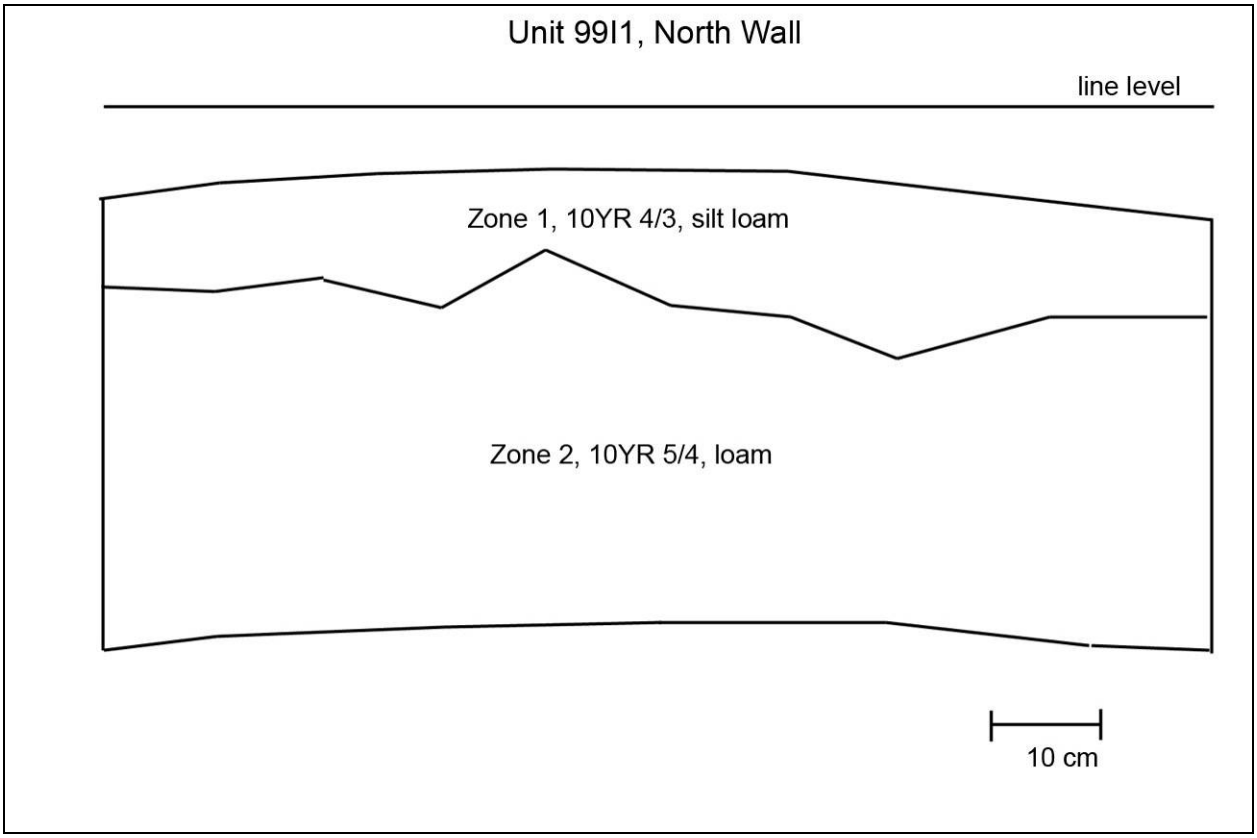


Figure 33. Profile of Unit 99I1.

The majority of the artifacts recovered from the excavation were historic (Appendix B and D). Only 3 lithic flakes and 8 fire-cracked rocks could be related to the prehistoric period. Most of the historic material was glass with flat glass, container glass and light bulb glass present. Six porcelain insulator fragments were also recovered. One penny with a date from the 1910s was recovered. Several nails were recovered and some were associated with decaying wood.

Two features were recorded in the unit, but they were related. Feature 5 was a soil anomaly first detected in the second level. The feature was defined as an area of darker soil with a finer texture that was less compact than the surrounding soil. No uniform pattern of the feature could be discerned. Immediately below this feature, a darker and more organic region was encountered. This second feature, Feature 7, turned out to be decayed sections of wooden boards (Figure 34). Driven through the boards and lying vertical in the ground, several wire nails were encountered. Features 5 and 7 were either the remnants of a pit that had been filled with historic

debris or part of a historic dumping area that involved scraping and filling. If the features were a pit, it was very ill defined with no distinct boundary. Two shovel probes were excavated in the northern corners of the unit. No soil change was encountered and there appeared to be a natural B-horizon.

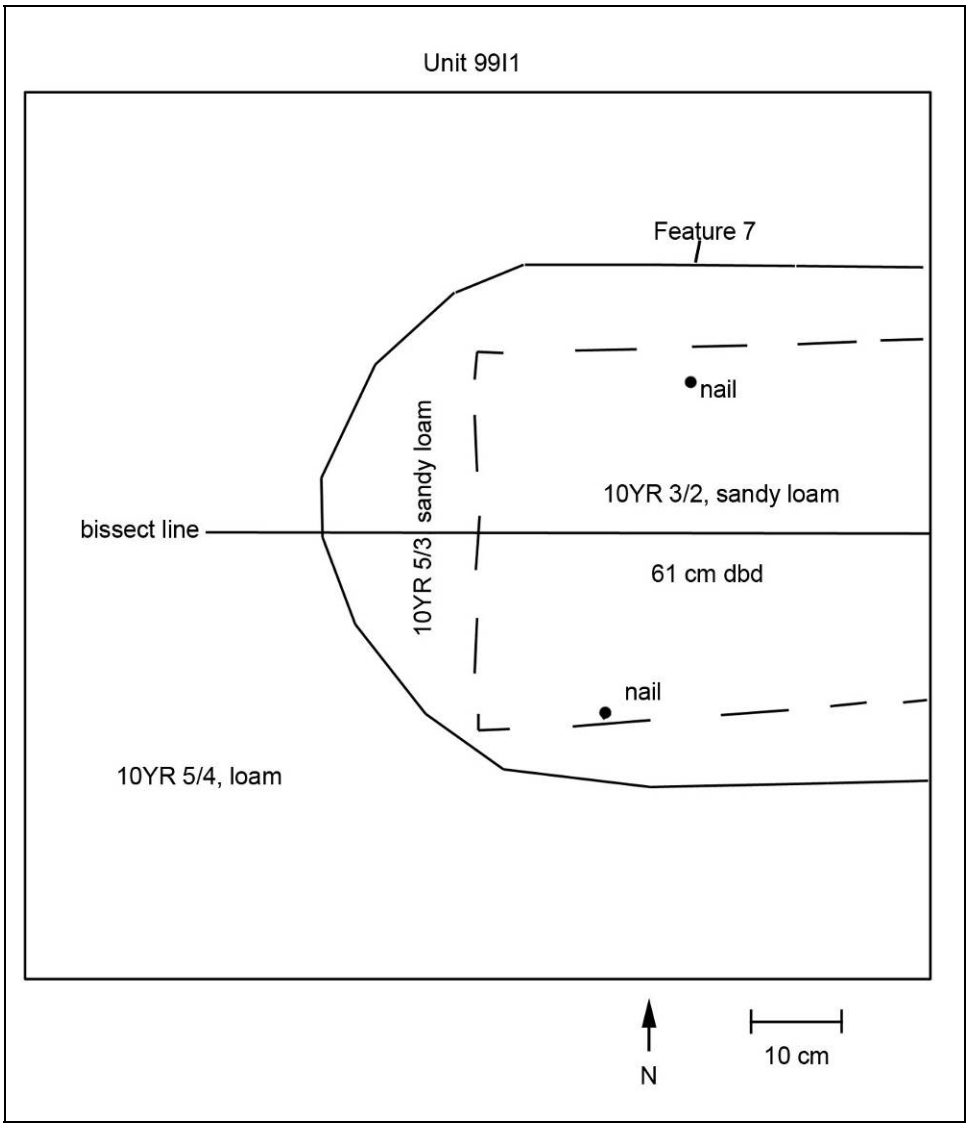


Figure 34. Plan of Feature 7.

Conclusions

During the 2006 BSU field school, a nearby area was examined for the location of the amusement park pavilion (Figure 35). The pavilion location was confirmed and historic disturbances and artifacts were recovered over a large area. It appeared at the time of the 2006 excavations that the location of unit 99IA was placed in a dump area related to the pavilion or to its demolition. The artifacts recovered from unit 99IA were consistent with those recovered for

the 2006 pavilion investigations (McCord 2007). The excavation of unit 99IA did not confirm the existence of a prehistoric aboriginal mound. The area excavated was historically altered and may have obliterated the prehistoric structure.

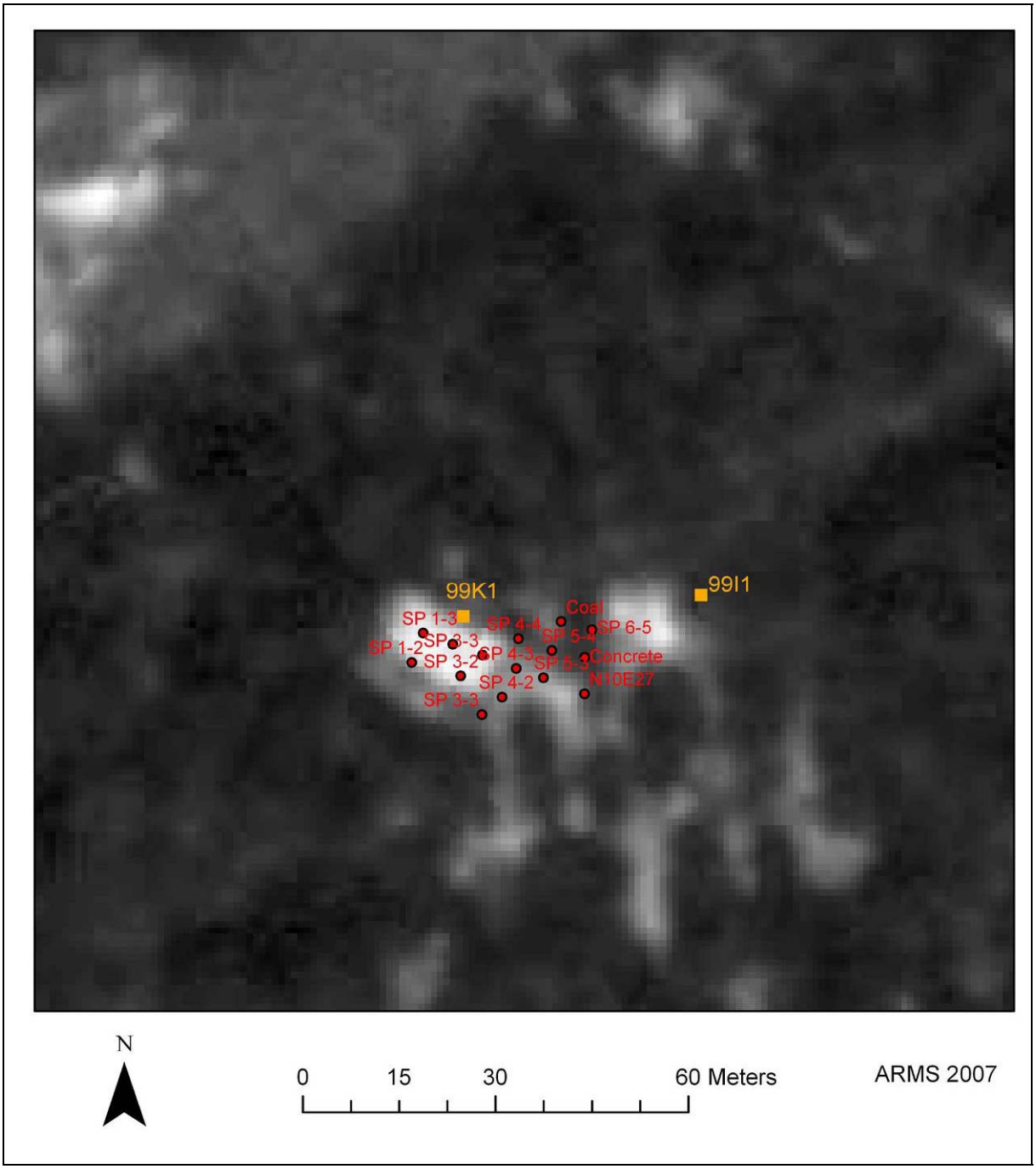


Figure 35. 1930 aerial of the Pavilion, 2006 shovel probes and units 99I1 and 99K1.

12-M-2k

Site 12-M-2k was reported as a small circular embankment with no ditch or gateway located to the northwest of the Great Mound beyond site 12-M-2i (Cox 1879:130) (Figure 6). The amusement park that once existed in the park has been reported to have caused damage to this earthwork (Buehrig and Hicks 1982:33). In this location, a pavilion and roller coaster were reported (Buehrig and Hicks 1982:33-34, 65)(Figure 32). Earthwork 12-M-2k had not been verified since it was initially reported.

In April of 1999, this area was inspected before the vegetation had emerged. In the general location of this enclosure, an apparent rise in elevation was noted near the bluff edge. A 1m x 1m unit was excavated to determine the nature of the rise (Figure 19).

Results

The excavation of the unit (99K1) did not reveal any evidence of an aboriginal enclosure. The excavation primarily recovered historic artifacts (Appendix B and D). The historic artifacts included wire nails, brick fragments, concrete fragments, container glass, flat glass, 1 piece of porcelain and one .22 shell. Only four lithic flakes and 12 fire-cracked rocks were recovered. The stratigraphy recorded from the unit showed that the surface was eroded and did not have a good A-horizon development (Figure 36). It is also possible that the upper levels were historically disturbed. The artifacts were found in the upper levels that had been disturbed either through erosion or historic actions. Below the disturbed levels, natural subsoil was encountered.

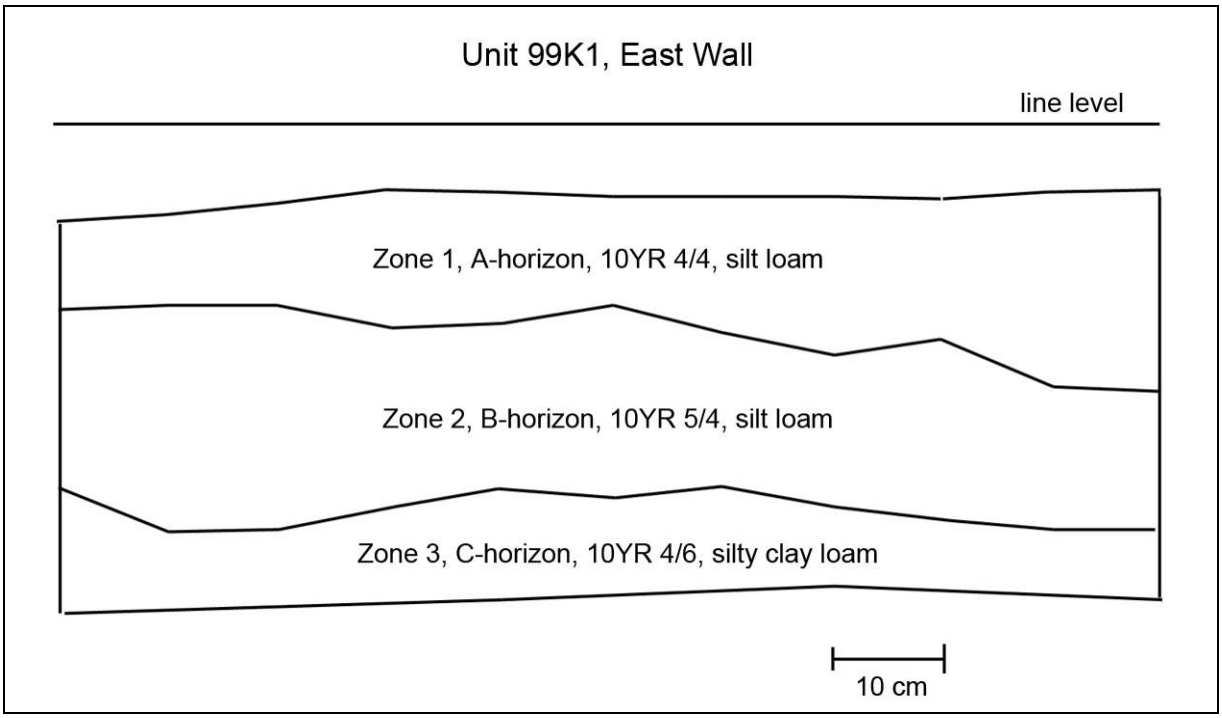


Figure 36. Profile of Unit 99K1.

Conclusions

The data recovered during the excavation did not support the existence of an aboriginal structure at this location. The enclosure was a natural feature, it was destroyed, or it was located in a different place.

During the 2006 BSU field school, a potential earthwork was discovered near Earthwork D (Figure 19). It is known that the Cox (1879:131) map of the southern enclosures is inaccurate. It is believed that Earthwork K was re-discovered to west-north-west of Earthwork D. A circular enclosure approximately 20 to 30 meters in diameter with a low bank was evident in this area. The potential enclosure was not explored further (McCord 2007).

12-M-2tt - Dalman Mound

Dalman Mound was not noted in the original description of the earthworks at Anderson Mounds (Cox 1879). The only well known report of the mound was from Lilly (1937:40). He reported that a small conical mound with a stone burial vault was located in between the southern and northern group of enclosures. One document describing the mound was a letter from Glenn Black to Frank Setzler written in 1934 (Black 1934:2):

> The information came to me third hand and has to do with someone who dug a small mound on the river bluff, in the Park, found a stone cist or tomb within the mound, burials, platform pipes and gorgets. I have verified the fact that there is a small mound at that point, that it has been dug and that it had contained a stone

structure of some kind. This much being true it is entirely possible that the balance of the story is true but I can't prove it. The fellow who dug did so against the orders of the owner and since the State has taken over the site is scared stiff.

The mound was lost until a few years ago when it was rediscovered by the park Naturalist, Karen Dalman in 1988 (Cochran and McCord 2001:57). The mound is located immediately adjacent to a hiking trail (Figure 8). A large pot hole in the center of the mound is evident and several large stones are exposed around it (Figure 37). A 2 m x 3 m unit was laid out to encompass the pot hole. The purpose of the excavation was to clean out the pot hole to determine the extent of the damage, reveal the original stratigraphy of the mound and sample the soil for artifacts.

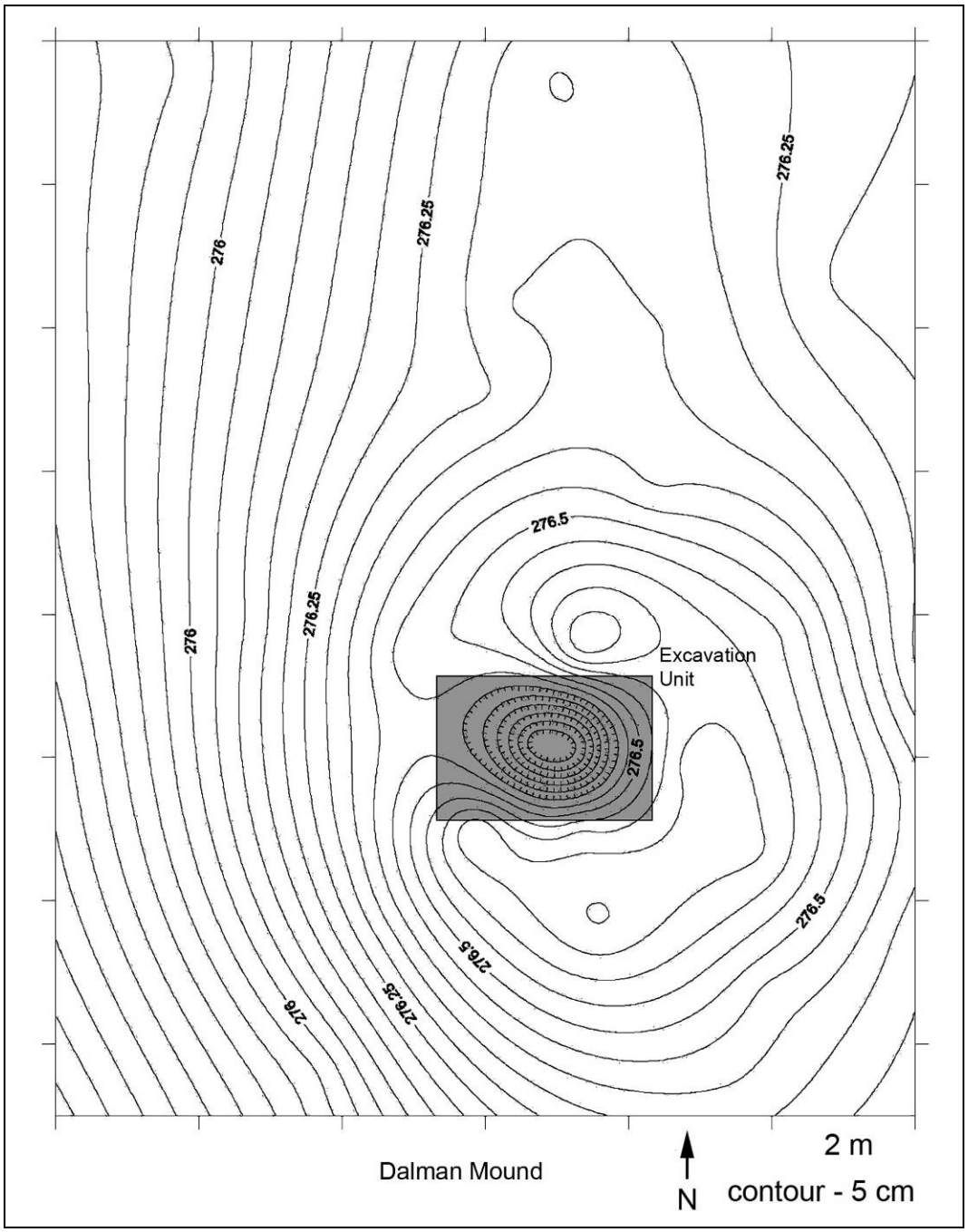


Figure 37. Pothole and location of the unit in Dalman Mound.

Results

The excavation of the unit did document the disturbance to Dalman Mound. At the surface of the mound the pot hole was approximately 2.8 m EW x 1.6 m NS and at the bottom the hole narrowed to approximately 1.2 m EW x 0.9 m NS (Figures 38 & 39). The depth of the pot hole was approximately 60 cm below the ground surface. The pot hole did not reach the base of the mound.

Figure 38. Photo of pothole.

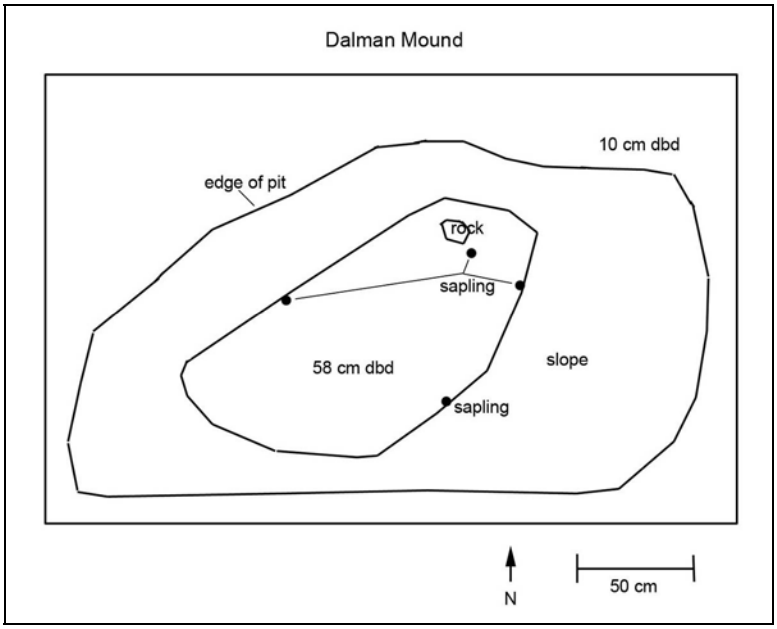


Figure 39. Plan of unit in Dalman Mound.

A section of the south wall of the unit within the pot hole was trimmed enough to make a profile possible. It was the only excavation into intact deposits. No artifacts were recovered from this soil. The profile documented the mound was definitely an artificial construction (Figure 40). There were at least two construction episodes, both likely to be capping events. At the base of the excavation was a dark grayish brown, clay loam soil (Zone 3). Above this strata was a yellowish brown silt loam soil (Zone 2). Light colored, silt (loess) soils have been documented in several mounds as the final capping episode (eg. McCord 1994, McCord 1999). The upper strata was a very dark grayish brown silt loam (Zone 1). Rather than this strata being a separate building episode, this zone likely represents the natural modification of Zone 2 creating an A/O-horizon.

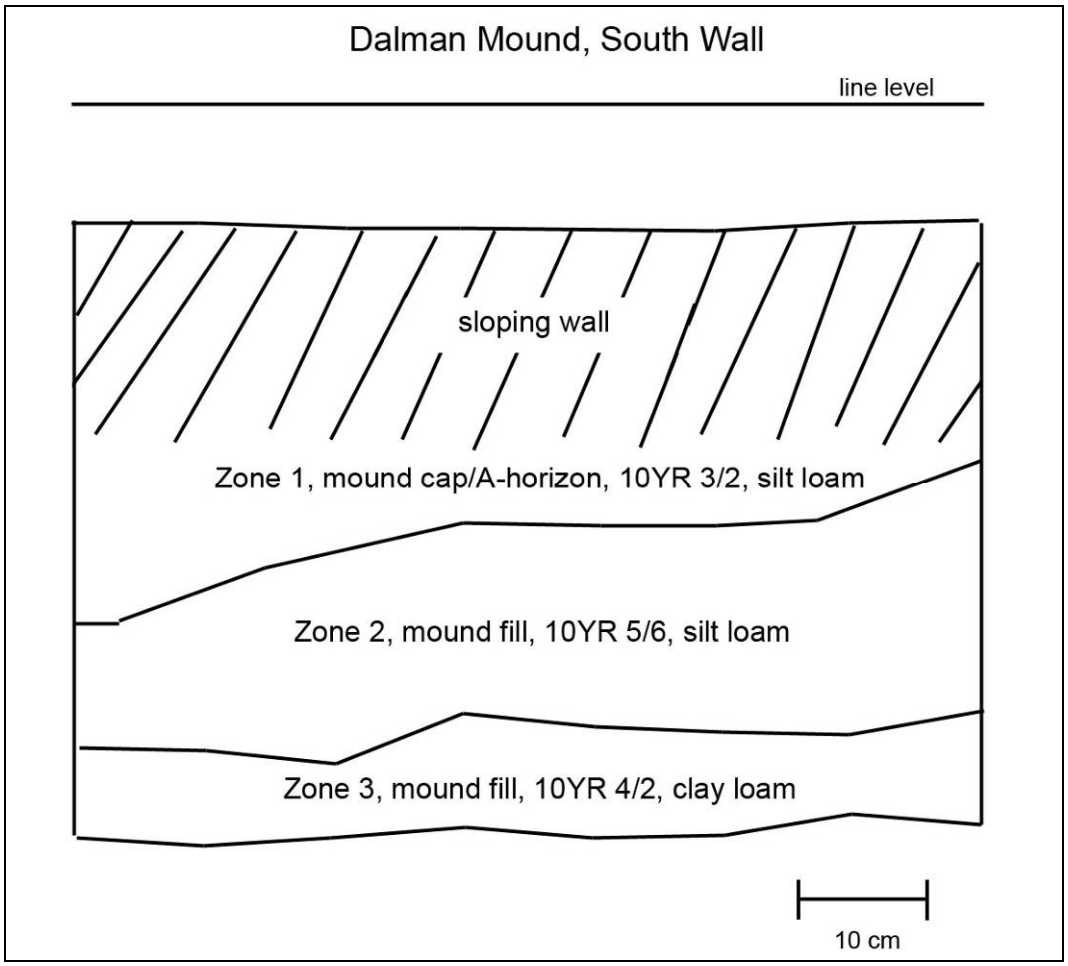


Figure 40. Profile of unit in Dalman Mound.

No indication of a stone structure was documented. One rock was recorded in the profile, but the rock appeared to have just been added as part of the final capping episode, rather than part of a stone feature. Only one rock in the bottom of the pot hole was in intact deposits in the lower strata of the mound. Several large rocks were encountered while cleaning out the pot hole and several more were observed on the mound surface around the pot hole. One would assume that the rocks were once part of the mound and the stone structure that was reportedly excavated

in the mound. Either the excavation entirely removed the stone structure or the rocks were not utilized in a patterned construction. Stone mounds, stone capped mounds and stone structures have been documented in regional mound constructions (Kirchner et al. 1980, McCord 1994), but the testing of the Dalman Mound did not clarify the addition of stone to the mound.

The only artifacts recovered were found in the disturbed soil from the pot hole. Only one unmodified lithic flake and seven fire-cracked rocks were recovered. The previous looters either did not find much for their effort, carefully removed their treasures, or the mound fill was fairly sterile of artifacts. Unfortunately, no carbon was recovered for radiocarbon dating.

Conclusions

While an expansive portion of Dalman Mound has been disturbed by pot hunting, the majority of the structure appeared intact. The pot hole never reached the base of the mound, so the lower deposits were preserved. The mound was built in at least two constructional episodes based on the available information. Unfortunately, the excavation could not identify the purpose of the stone in the construction of the mound. Stone may have simply been added to the mound fill, but the construction of mounds was rarely simple. No features were identified. No diagnostic artifacts or radiocarbon dates were recovered, so the temporal placement of the mound was uncertain. The mound was likely related to the Early and Middle Woodland earthworks, but this was not supported by the testing.

The testing answered a few research questions, but it stimulated many more. Further archaeological exploration into intact deposits should be conducted to recover diagnostic artifacts and carbon for dating, to further explore the use of stone in the mound's construction, and to document the full construction sequence of the mound. However, further work should be limited to minimize further destruction of the mound.

Discussion

The 1999 field school at Mounds State Park recovered data from several archaeological sites within the park. The excavations of site 12-M-2hh provided the most information on any habitation site within the park. A Woodland component was identified at the site, but it may or may not relate to the Middle Woodland earthworks. If occupations of the site relate to the earthworks, the site would be one of only a few known Middle Woodland habitation sites from the east central Indiana region. Only a small sample of the site was investigated and a potential for intact archaeological deposits was recovered. Further work on the site is recommended to fully define the limits of the site and recover additional data.

Excavations at the Great Mound recovered data on the depth of the ditch. The original ditch surface was encountered at 50 cm below the present ground surface. Future investigations could determine if this is a consistent depth and if other features such as post molds or Middle Woodland artifacts occur at the base of the ditch.

The existence of a western gateway was confirmed at Earthwork B. This gateway was formed by leaving an area of intact and unaltered soil. This construction is typical of known earthwork construction practices. The eastern gateway tested previously was constructed by infilling the ditch to create a gateway. This type of gateway is not known from other earthworks in the region. The presence of two gateway in one enclosure is also not known from regional earthworks. The depth of the original ditch does not appear to be uniform. Near the western gateway the ditch is 30 cm deeper than the present ground surface and at the eastern gateway the ditch is nearly 1 meter in depth. The disparity of depth should be explored in the future.

The location reported as Earthwork E was confirmed to be a natural feature.

Investigations at the Fiddleback provided further information on the construction of the enclosure. The embankment was apparently constructed in one episode. Clearing trees from the area was likely part of the construction process. Another radiocarbon date from the embankment fits well with previous dates from Fiddleback, ca. 80 to 140 BC. The radiocarbon dates also suggest that the Great Mound embankment was constructed prior to the Fiddleback embankment. The midden deposit that was encountered in the western mound was also encountered in eastern sections of the central platform and confirmed the existence of a mound structure.

Excavations at the reported locations of Earthworks I and K encountered historic disturbances relating to the Amusement Park era and the Pavilion. No evidence of prehistoric earthworks was encountered. Historic maps of the earthworks are known to be inaccurate and these earthworks may be located elsewhere. A possible location of Earthwork K, near Earthwork D, should be further investigated.

Investigations of Dalman Mound found that previous pothunting did not reach the base of the mound. The mound was construction in at least two construction episodes. The use of stone in the construction of the mound was unclear.

While the 1999 excavations were small in nature, a variety of information was recovered from both a habitation site and several earthworks within Mounds State Park. Information concerning the structure and use of the earthworks continues to grow and further research will help to confirm hypothesis that are generated. Radiocarbon dates from Earthworks B and D would be useful in determining the construction of the southern group of enclosures. As recently observed, “the extent of excavations has in total been quite limited and a multitude of research objectives could still be explored” (McCord 2007:56).

NEW CASTLE SITE

Background

The New Castle site (12Hn1) is in Henry Township in portions of the NE 1/4 of Section 2, Township 17 North, Range 10 East as shown on the USGS 7.5' New Castle East, Indiana Quadrangle (Figure 3). The site is located between 1050' and 1070' AMSL on a terrace overlooking the Big Blue River sluiceway to the west. The complex is between two drainages with the Little Blue River approximately 500' north of the northern earthworks and an intermittent drainage approximately 300' south of the southern enclosures. The site is primarily on the well drained Eldean silt loams (EdA and EdB2), but the site boundaries also include well drained Losantville silt loams (LeD2)(Hillis and Neeley 1987:17 & 24, map sheet 28).

The New Castle site is reported in various historical accounts as the most impressive prehistoric earthwork site in the county (Pleas 1871:135- 136, Gorby 1886:115-116, Redding 1892:99-103, Thomas 1891:75, Shetrone 1930:249, Lilly 1937:68-71). Pleas (1871:135-136) provides the earliest account of the site. He notes that some of the enclosures “appear to have been circular, others quadrangular, one octagonal and some of irregular outline, though from the partial obliteration of the walls [from plowing] the exact state is not easily determined” (Pleas 1871:136). Of the early sources, Redding (1892) provided the most detailed descriptions for individual earthworks and their spatial relationships. While Redding's (1892) descriptions were important, no map of the site was made and his descriptions were not ordinal. The first and only map of the site was pictured in Lilly (1937) (Figure 41 and later reproduced in Swartz (1976)(Figure 42). Unfortunately, this map was made after the construction of Colony No. 3 at the Indiana Village for Epileptics. The construction of Colony No. 3 severely damaged or destroyed some of the earthworks (Swartz 1976). Lilly (1937) and Vickery (1976) both discussed the size and condition of the earthworks, but several of their descriptions were found to be inaccurate in a 1998 survey of the complex (McCord 1998) (Figure 5).

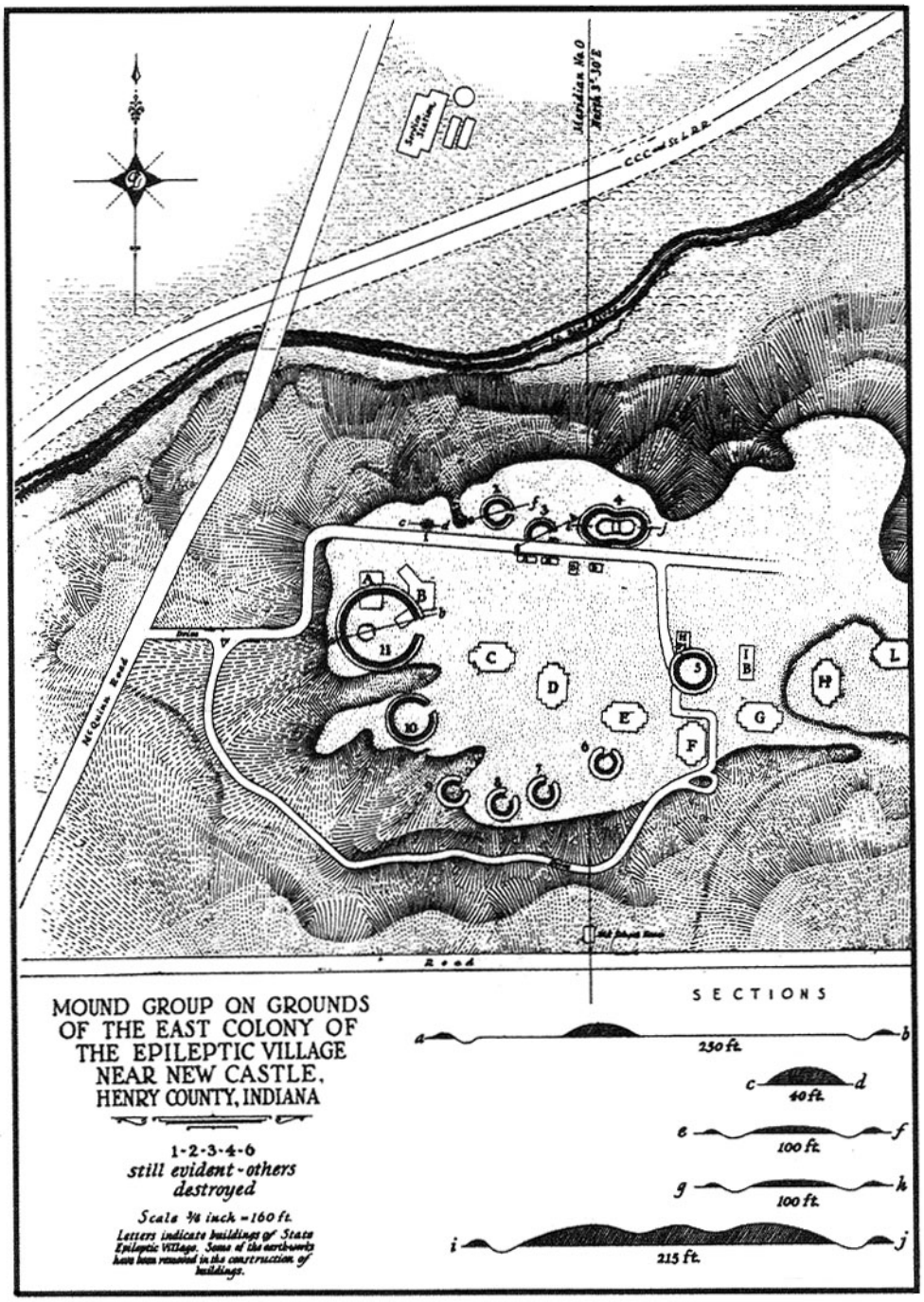


Figure 41. Lilly's (1937) map of the New Castle Complex.

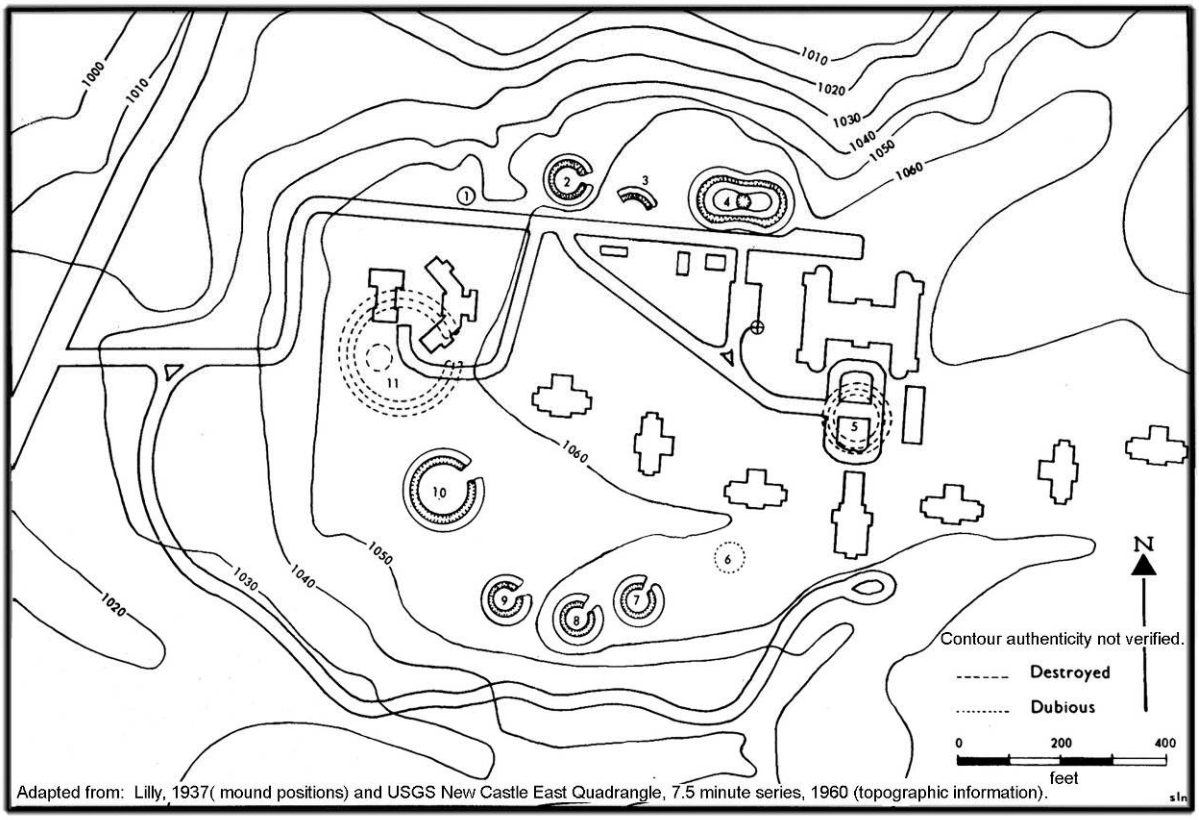


Figure 42. Swartz's (1976) map of the New Castle Complex.

Historically, the landuse at the New Castle site has involved agricultural activities and served as the location of Colony No. 3 of the Indiana Village for the Epileptics. The land was originally purchased in 1821 by Allen Shephard (Anonymous 1980:n.p.). In 1875 John C. Huddleson owned the property (Anonymous 1972:10). In 1906 the property was purchased by the state of Indiana for the Indiana Village of Epileptics (Flynn 1974). In 1913, Colony No. 3, consisting of 2 cottages for boys, was built at the location of the earthwork complex (Flynn 1974). The Epileptic facility grew and became a self-sufficient community. In 1956, the facility was renamed the New Castle State Hospital to incorporate mentally retarded patients. With new treatments for epileptics, the patient enrollment declined. In 1972 the land involving the New Castle site was transferred to the Department of Natural Resources for the development of the Wilbur Wright State Recreation Area (Radford 1992). In the mid 1980s the buildings associated with the hospital were torn down. Redding (1892) noted that early cultivation had damaged Earthworks 3, 4, 5, 10 and 11. These same earthworks were further damaged by the construction of the colony buildings and roads (Lilly 1937, Vickery 1976).

Several writers document excavations occurring at the site (Pleas 1871:136, Redding 1892:100-102, Lilly 1937:70, and Swartz 1966:1). These reports focused on excavations at either Mound 1 or Mound 4, but excavations at the circular enclosures were also documented by McCord (1998, 1999). The most extensive investigations of the New Castle site were conducted

by Ball State University field schools from 1965 to 1971. The field schools excavated portions of three of the earthworks; Mound 1, Mound 4 and Earthwork 7 [actually Earthwork 6 - (McCord 1998:58 -60)] (Swartz 1976).

The 1965 BSU field school excavated 3 - 5' square units in the western portion of Mound 1. The interpretation of the excavation reported the mound had been built on a natural knoll with a primary mound of banded soil and a second capping of soil containing burned bone, charcoal, red ocher, ash and lithic debris. A sheet of untrimmed mica was found surrounded by fragmented human cranial and long bones (Swartz 1976:22-23).

Between 1965 and 1971, portions of Mound 4 were excavated each year (Figure 43). The interpretation of Mound 4 was that each lobe of the mound had a primary mound core and a complex stratigraphy of features (Swartz 1976) (Figure 44). The excavations reportedly recovered 27 individuals (3 were intrusive), 617 chipped stone artifacts, 9 ground stone artifacts, 2 untrimmed sheets of mica, several thousand ceramic sherds including 1 complete plain vessel and 1 portion of a Hopewell Zoned Rocker Dentate Stamped vessel, 1 clay platform pipe, 27 split turkey bone pins, 1 bone awl, 2 drilled lynx mandibles, 2 cut long bones, 1 antler rod, 2 bird claws, 5 conch containers, 31 circular shell beads, 462 drilled pearl beads, 4 copper covered bear canine effigies, 1 dog burial and unmodified animal bone (Swartz 1976). Fragments of a copper panpipe were also recovered (Cree 1992). Uncorrected radiocarbon dates from Mound 4 include AD 10 ± 160, AD 40 ± 140 and AD 230 ± 300 (Swartz 1976:58).

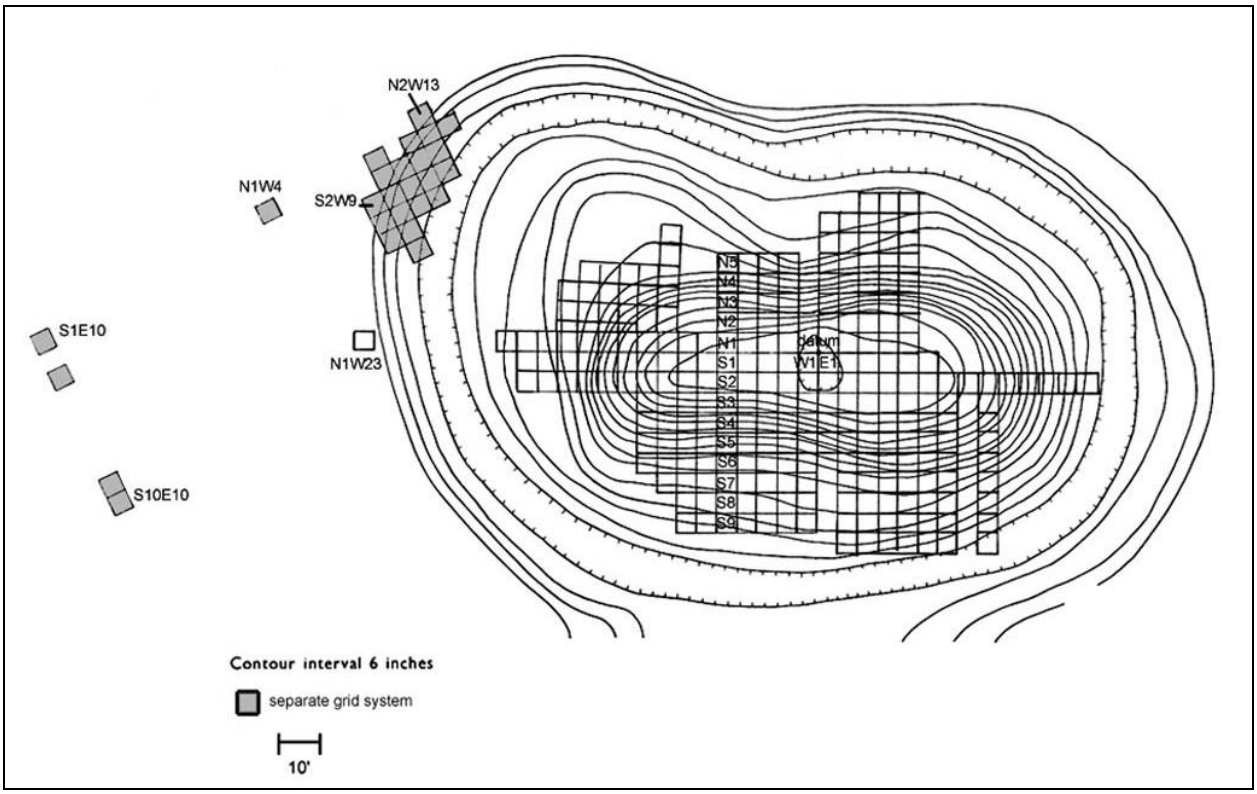


Figure 43. Areas excavated in Mound 4 (after McCord 1999:59). North is to the top of the figure.

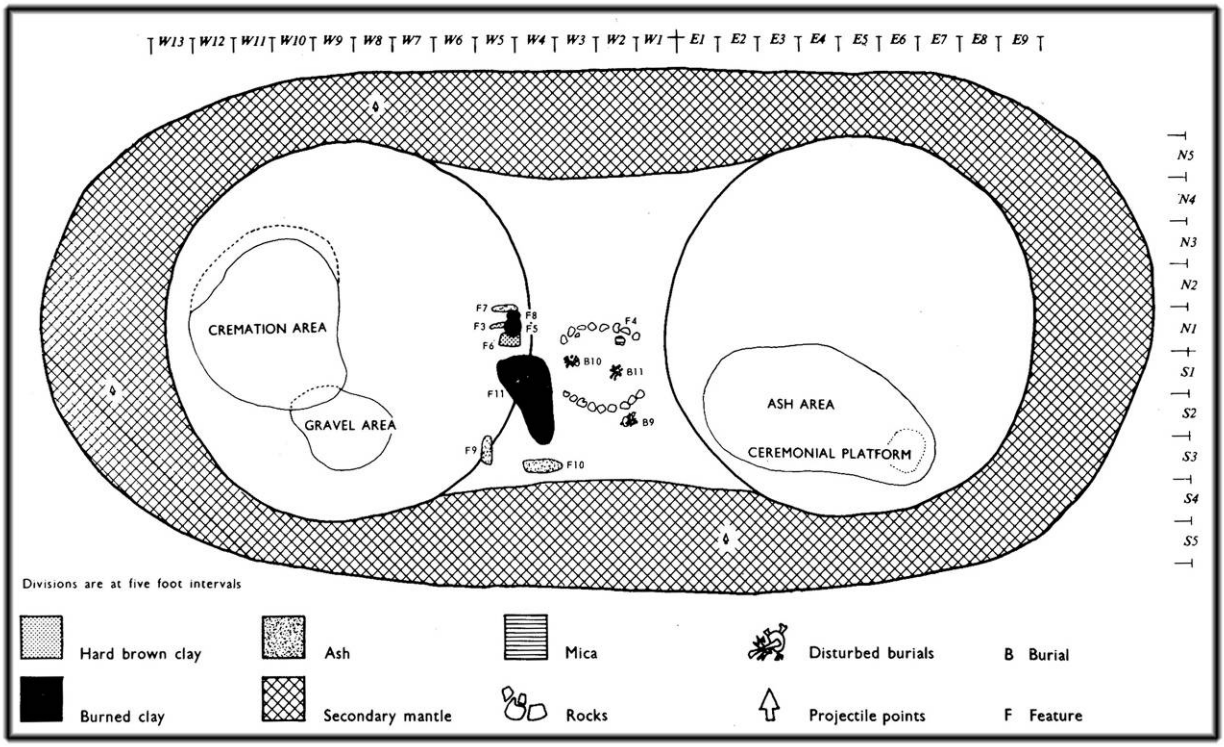


Figure 44. Plan map of Mound 4 (Swartz 1976:68). North is to the top of the figure.

During the 1970 and 1971 BSU field schools, the southern half of the enclosure identified as Earthwork 7, actually Earthwork 6, was excavated. A Kanawha, Matanzas, a bifurcate point, and a point fragment were recovered from the surface. Two point fragments, a bipolar artifact, 2 anvils and 127 pottery sherds were recovered from the central platform and ditch (Swartz 1976, ARMS files).

The site was interpreted as a "Hopewell Ceremonial Complex" (Swartz 1976). Vickery (1979:59 & 62) reported that the entranceways of eight of the circular enclosures were oriented toward the panduriform which suggested it was the focal point of religious and/or civil ceremonial activity. Because of the BSU excavations, the site was nominated and listed on the National Register of Historic Places on April 16, 1976 (Swartz 1976).

A 1998 mapping project helped to clarify and refine previous documentation of the site (Figure 5). The project relocated and mapped the extant earthworks in the complex and refined the previous documentation of the site. The buildings from the Epileptic Colony had been removed and the site area was grown over with grasses, small trees and multiflora roses. Previous errors concerning the location and preservation of the earthworks were amended by the project (Figures 5 & 45). It was also found that previous work misrepresented the integrity of the site. Of the 13 earthworks reported at the site, portions of 10 structures were still visible. It was likely that portions of the bottom of ditches of the 3 remaining structures were also intact and could be relocated. Damage to the northern portion of embankment of Mound 4 from borrowing operations was documented. The National Register Nomination for this site was

found to be deficient in a factual description of the entire complex and the site boundaries were inaccurate. The survey provided the realization that the New Castle site was one of the best preserved earthwork complexes still existing in east central Indiana and further research of the site was necessary (McCord 1998).

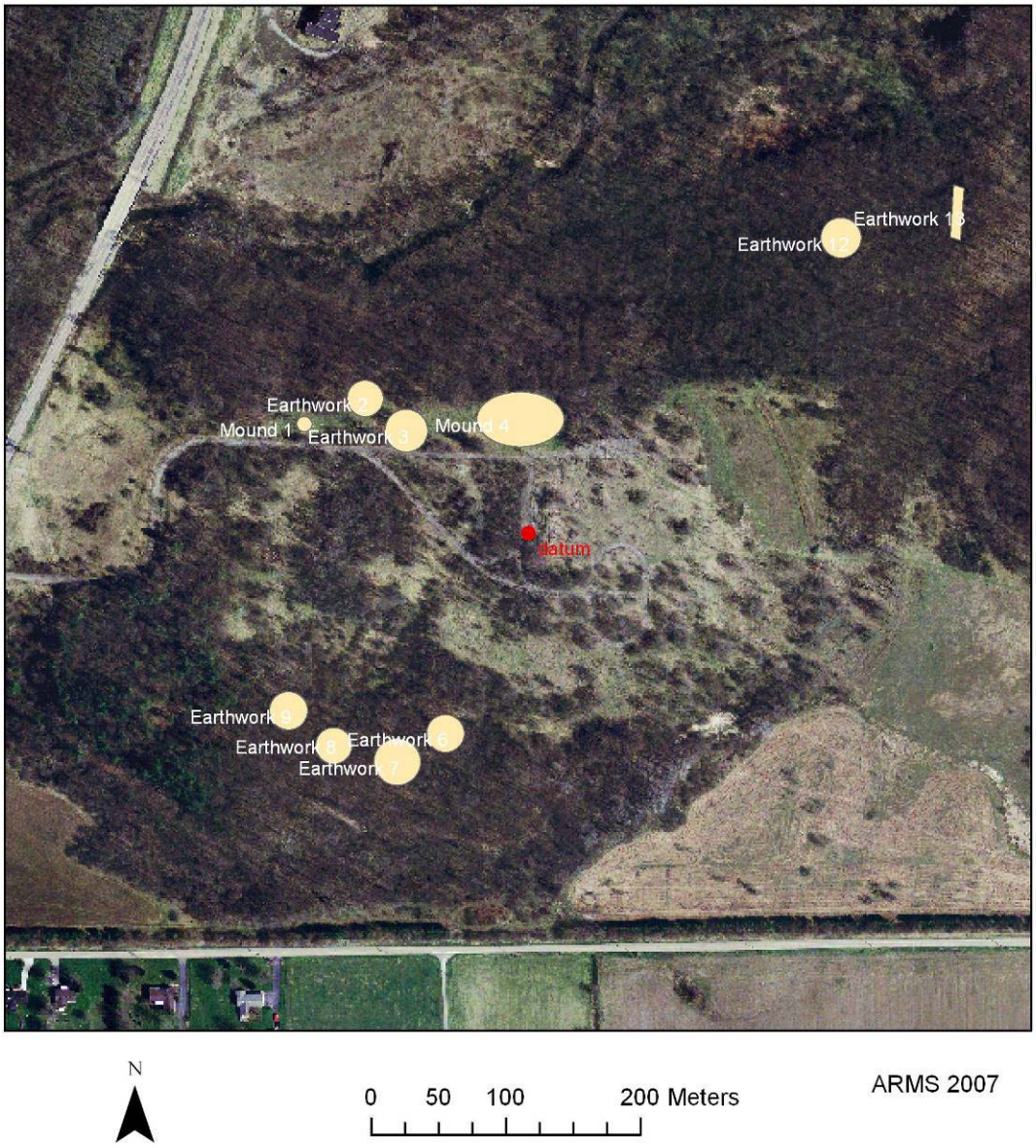


Figure 45. Location of the New Castle earthworks on a 2003 aerial.

A limited testing project of the site was undertaken in 1998 and 1999 by ARMS (McCord 1999). This project was undertaken to address several goals including an assessment of disturbance, documentation of associated activity areas, acquisition of an excavated sample from each earthwork, recovery of additional radiocarbon dates, and increasing our understanding of the structure and organization of the site. Historic disturbance to the site area was more clearly

delimited. Disturbance outside of the enclosures was extensive and included major borrowing around and on the earthworks as well as construction related to the hospital complex. Remarkably, the enclosures were the overall best preserved portions of the site area. A few prehistoric artifacts were recovered outside of the earthworks, but no activity areas directly associated with the enclosures were defined (McCord 1999).

All of the extant earthworks at the site were minimally tested. The circular enclosures were found to have broad, shallow ditches with no artificial mounds on the central platform. Earthwork 13 was documented to be an aboriginal construction and was found to be the only extant structure of its type within the region. A consistent artifact assemblage was recovered from the enclosures. The lithic materials were manufactured from local and exotic cherts. Exotic cherts consisted of Burlington, Flint Ridge and Wyandotte. The ceramic assemblage appeared to be a regional variation of documented Early and Middle Woodland types from Ohio and Kentucky. Unfortunately, no radiocarbon dates for Early and Middle Woodland period were obtained. The project also reopened small sections of previous excavated portions of Mound 1 and Mound 4. The reexcavation of these small units determined that these structures were more complex that previous documented and demonstrated the wealth of data that remains in the undisturbed profiles in Mounds 1 and 4. It was recommended that larger areas of these profiles be recorded to further document the construction of the mounds. The project also demonstrated that archived information from the site contains valuable data and recommended a full review (McCord 1999).

Results

The plan of excavations at Mound 4 of the New Castle site was a direct reflection of the results of the1999 testing (McCord 2000). The re-excavation of portions of Mound 4 to expose longer segments of intact profiles was conducted to gather new stratagraphic information. This would allow for a more accurate representation of the construction and activities that occurred in the mound. Also, samples suitable for radiocarbon dating were sought to refine the chronology of the mound. Areas that would allow for intact profiles to be exposed were found in both the west and east side of the mound (Figure 46). The re-excavated section in the west end was designated Trench A and the re-excavation in the east end was designated Trench B.

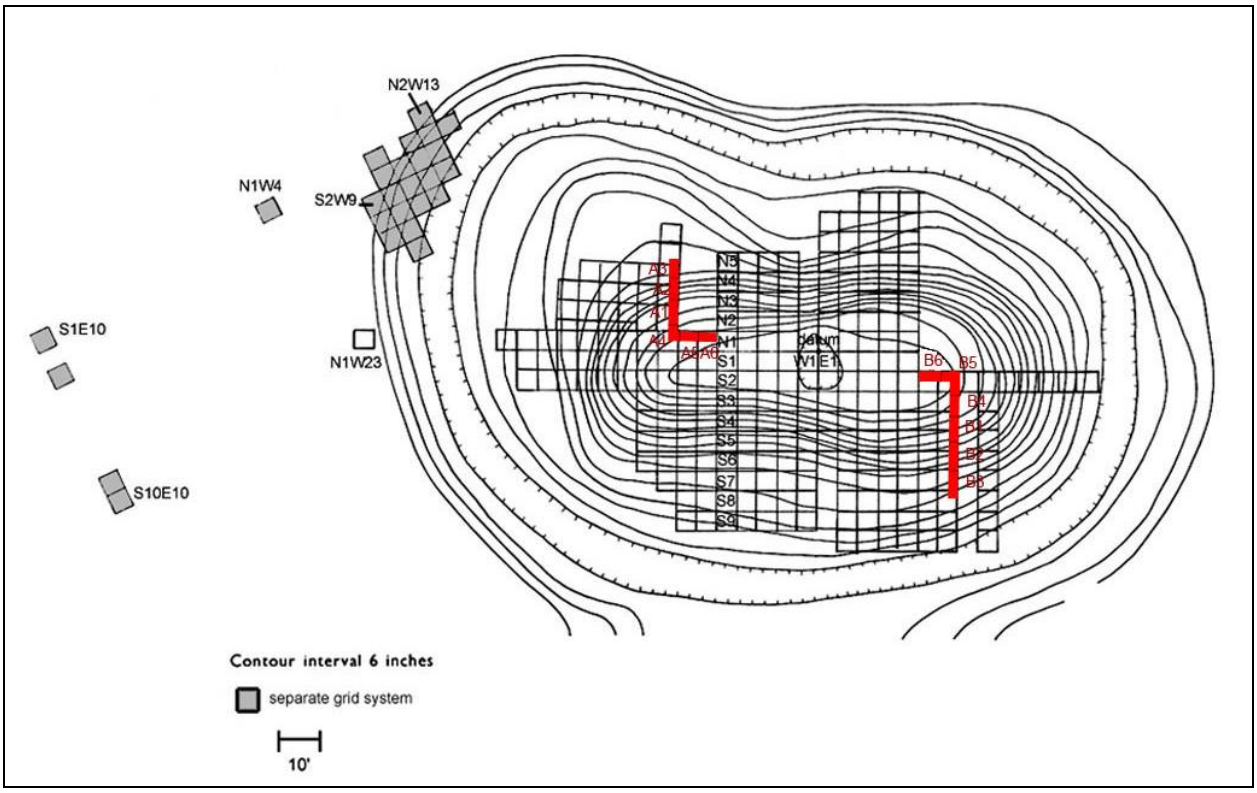


Figure 46. Location of field school re-excavation shown in red. North is to the top of the figure.

Trench A

Following the 1965 to 1971 excavation grid and the 1999 re-excavated unit, the area of an intact wall in the west end of the mound was defined. Trench A was excavated to expose the east wall sections originally designated as units N2/W8, N3/W8, N3/W8, and N4/W8 and north wall sections originally designated as units N1/W7 and N1/W6 (Swartz 1976). Each trench was reopened in 2 meter sections and designated with new unit numbers corresponding to units A1 – A6 (Figure 47).

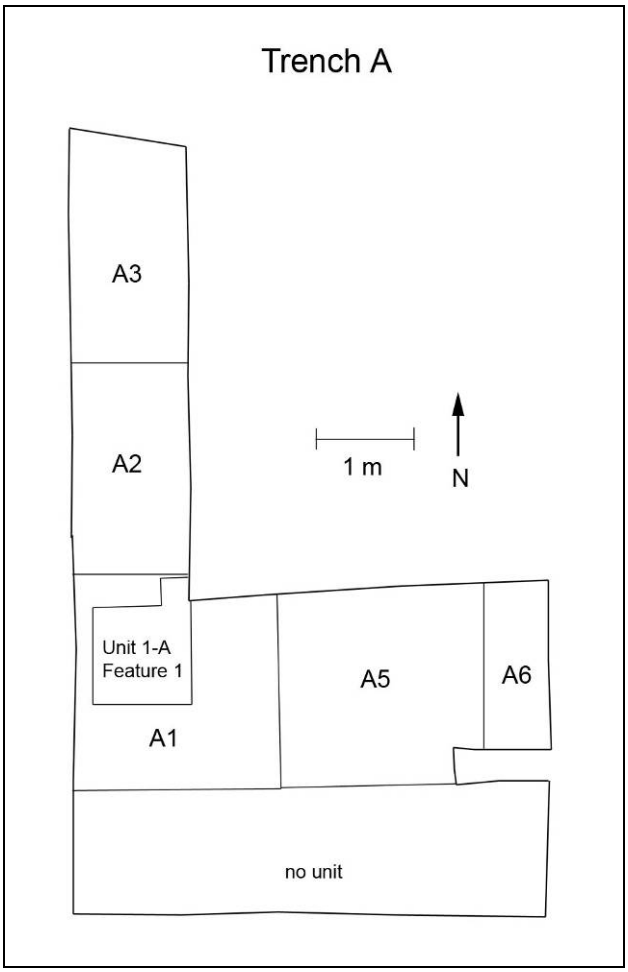


Figure 47. Plan map of Trench A.

Artifacts

Numerous artifacts were recovered from screening a sample of the backfill of Trench A (Table 4)(Appendix C and D). The majority of materials recovered were bone. Only two of the fragments were positively identified as human; one maxilla fragment and one tooth fragment. The large quantity of bone may be related to the remnants of the "Burial Area" not completely excavated by previous investigations (Swartz 1976). The feature is further discussed below. The other materials are consistent with artifacts previously recovered from this area of Mound 4. In particular, the largest quantity of pottery, including New Castle incised variety, were recovered from the "Cremation Area" located west of Trench A (Swartz 1976). The sample of artifacts recovered from the re-excavation does indicate that previous screening was either not done, inconsistent or used larger mesh. The field report for the 1965 excavations (Neirinck 1966:11) note that level control was used for only two of the seven units (N1/W8 and N1/W6) excavated in the western portion of Mound 4.

Table 4 Artifacts Recovered from Trench A			
Identification	No.	Identification	No.
Burned bone	367	FCR	37 (1241.2 g)
Bone	12	Limestone, burned	4
Human bone, burned	2	Ash/calcite	78
Unmodified flake	28	Mussel shell	2
Core	1	Burned clay	(20.9 g)
Block flake	1	Charcoal	(20.0 g)
Bipolar	1	Coal slag	13
Pottery, body	27	Clear glass	1
Pottery, rim	1	Plastic	1

Features

At the base of the previous excavation in the area designated as unit A4, a darker soil filled with burned bone was encountered and designated as Feature 1. This area was originally reported as part of the "Burial Area" in the western part of Mound 4 (Figure 44):

> This was series of inhumations and partial cremations found in a general area just east of Component One, the Cremation Area. Above these burials was mound fill containing patches of gravel or sand 3 feet wide (Strickler and Wilson 1967, p. 8). This was probably dirt from the primary mound. Most of the bones were embedded in sterile compacted clay, first appearing at about 65 to 70 inches below existing mound surface (Swartz 1976:12).

A 1 m x 1 m unit, Unit 1-A, was excavated in Feature 1 and recovered several hundred fragments of bone (Appendix C). The unit appears to have been placed in the location of Burial 1c (Swartz 1976:69). The burial was only described in Swartz's (1976) final excavation report as a young adult male that was partially cremated (Swartz 1976:49 citing Glenn 1973). The burial is referred to as Burial 1, Bundle Burial A in the field excavation report and described as follows:

> Under the tibia and fibula of Skeleton B was found an undamaged skull. In this area were burned bone fragments, undamaged bone, and burned skull fragments. In association were 18 slender pointed worked bones (Neirinck 1966:13).

Bone was the most dominant material recovered from Unit 1-A. Most of the bone was burned and appeared to be from a large mammal. Several fragments were identified as human elements including teeth, a phalange, and fragments of a parietal, zygomatic, lunate and coccyx. One unmodified flake, four pieces of pottery, ash and charcoal were also recovered.

Flotation samples were also taken from intact deposits in Unit 1-A. The samples were processed and rough sorted, but not quantified. Large amounts of burned and unburned bone,

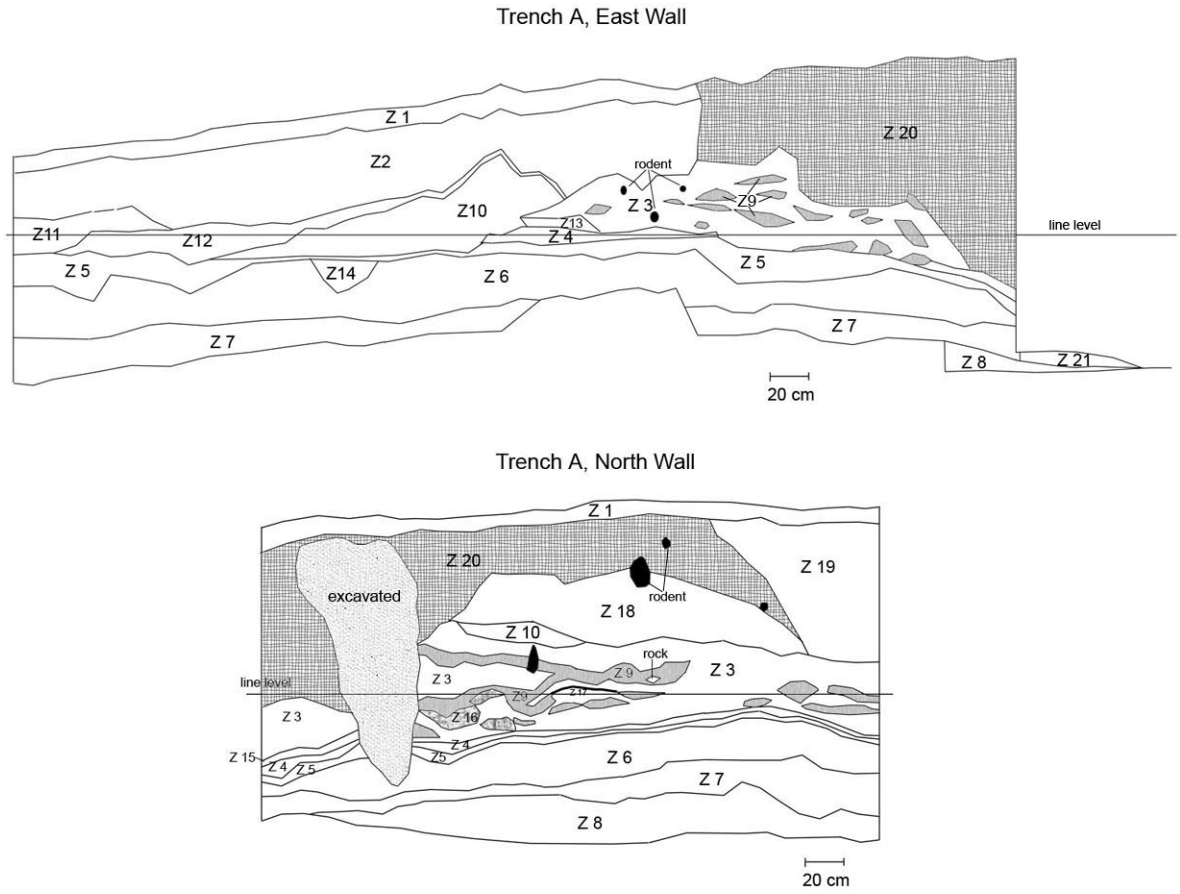
flakes, charcoal, burned clay, mica, pottery, and concretions of calcite and dirt were recovered. Some of the bone represented human elements such as teeth. Four fragments of burned bone had a green stain, possibly related to copper. No copper artifacts were reported from this area of the mound in the excavation description (Swartz 1976, Cree 1992). However, the key of Figure 7 (Swartz 1976:69) includes a copper artifact.

The excavation of Feature 1 and the profile recorded for Trench A suggest that the "Burial Area" was a submound pit and rectangular/square in shape (Figure 48). The fill within the pit obviously contained a large quantity of human material both, unburned and cremated, that was not previously recovered. A carbon sample was obtained during the excavation of Feature 1 and submitted for AMS dating. The resultant date was 1910 ± 50 BP or cal AD 55 to 135 (Beta-133449).

Figure 48. Photo of Unit 1-A, Feature 2.

Profile

The main goal of the re-excavation was to obtain a more specific profile of the western portion of Mound 4. The re-excavation allowed for an approximate 4.6 m north-south segment and a 3.1 m east-west segment (Figures 49 - 51). As previously documented (McCord 1999:64-67), the stratigraphy of the area was complex. The section exposed in 1998 was smaller and a few of the strata were reinterpreted during the 1999 field school. Essentially, a zone previously identified as the original ground surface had A-horizon characteristics (see Zone 5), but unaltered soil (Zone 8) horizons were not encountered until lower in the profile. As previously documented (McCord 1999:67), the upper portions of Mound 4 have been seriously altered. Comparing original depths of excavations (Swartz 1976, field notes) and the 1998 and 1999 depths encountered, between 85 and 100 cm of soil is missing from the top of the mound. Landscaping, previous excavations and backfilling by bulldozer have significantly altered the mound's topography (eg. Pullen 1971, Stacey 1972).



Zone 1 - A-horizon (recent), 10YR 3/3, silt loam
Zone 2 - 10YR 4/3, silt loam
Zone 3 - 10YR 4/3 with 10YR 6/2 and 10YR 5/1 mottles, silt loam
Zone 4 - 10YR 5/4, silt loam
Zone 5 -10YR 3/2, silt loam (old A-horizon)
Zone 6 - 10YR 4/3, silty clay loam
Zone 7 - 10YR 4/4, clay loam
Zone 8 - 10YR 3/4, clay loam with gravel (natural B-horizon)
Zone 9 - 10YR 4/1, 10 YR 7/2 and 5YR 5/6 mixed, silt loam (basket loads)
Zone 10 - 10YR 3/4, silt loam
Zone 11 - 10YR 3/3, silt loam with gravel (possible rodent)
Zone 12 - 10YR 5/4, silt loam (similar to Zone 4)
Zone 13 - 10YR 4/2, 10YR 5/2 and 5YR 4/6, silty clay loam
Zone 14 - 10YR 3/2, silt loam, mixed with FCR, burned clay, and charcoal
Zone 15 - 10YR 7/1, silt (calcite powder)
Zone 16 - 10YR 5/1, silt (basket loads)
Zone 17 - 10YR 2/1, charcoal lens
Zone 18 - 10YR 3/3, silt loam
Zone 19 - 10YR 5/3, silt loam (similar to Zone 2)
Zone 20 - mixed backfill of previous excavation
Zone 21 - 10YR 3/2, silt loam, burial pit

Figure 49. Profiles of Trench A.

Figure 50. Photograph of Trench A, East Wall.

Figure 51. Photograph of Trench A, North Wall.

Discussion of the stratigraphy recorded from the bottom of the excavation to the surface, begins with an unaltered B-horizon represented by Zone 8 (Figure 49). Zones 6 and 7 are homogenous mound fill episodes. Zone 5 is an organic strata similar to an A-horizon. This could represent an old ground surface if mound construction ceased for several years. Zone 14 in the east wall is a small intrusive pit originating from Zone 5. Zone 4 was a homogenous capping episode that did not completely cover the extent of Zone 5. Zones 3, 9, and 16 represent the most complex portions of the stratigraphy displaying soils of alternate color and showing basket loading. Most of the remaining soil strata represent more homogenous layers of mound fill. Zone 17 in the north wall was a thin charcoal band and a charcoal sample was submitted from this zone. The resultant AMS date was 1760 ± 40 BP or cal AD 235 to 340 (Beta-133451). The thickest strata encountered were Zones 2 and 19 likely represent a final mound capping episode. However, with 85+ cm missing from the top of the mound this is only a tentative identification. Zone 21 represents a portion of Feature 1 or the "Burial Area". It would appear that this was a pit dug into the sterile B-horizon of Zone 8. Unfortunately it is not clear which subsequent strata either covered or were interrupted by Zone 8 since this area is beyond intact stratigraphy. A radiocarbon sample was submitted from Zone 21 (Feature 1) and the resultant date was 1910 ± 50 BP or cal AD 55 to 135 (Beta-133449). Disturbances from the previous excavations (Swartz 1976) were mapped as Zone 20. These areas represent either excavated sections or wall collapses. A large hole likely from a wall slump was partially re-excavated in the north wall.

Trench B

Again following the original excavation grid, an area of an intact wall on the eastern side of the mound was defined. Trench B re-opened units originally designated as S1/E7, S2/E7, S3/E7, S4/E7, S4/E7, S5/E7, and S6/E7 to exposed the east wall and units S1/E6 and S1/E7 to exposed the north and east walls (Swartz 1976) (Figure 52).

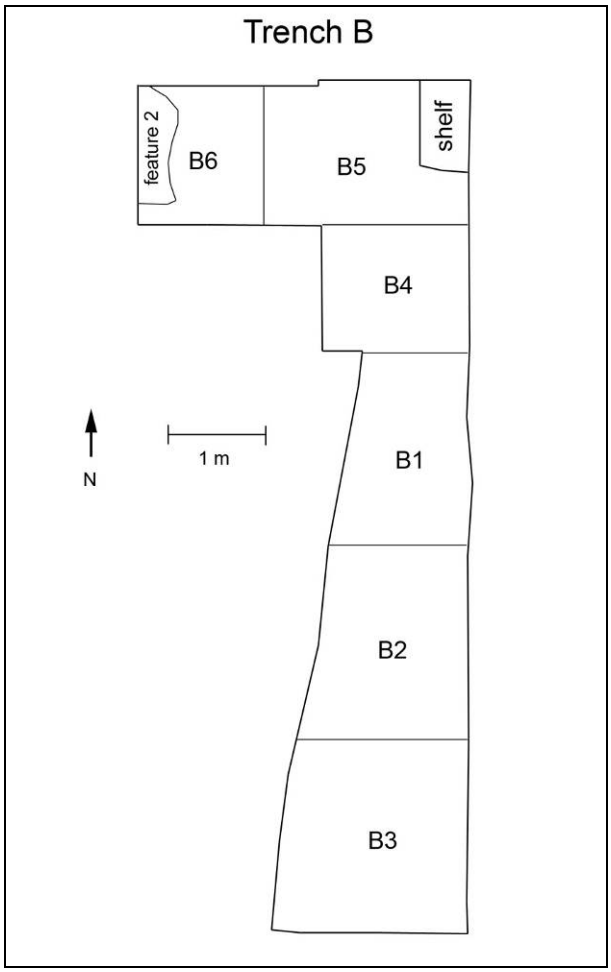


Figure 52. Plan of Trench B.

Artifacts

Fewer artifacts were recovered in the re-excavation of Trench B than Trench A. The sample of screened soil recovered approximately 40 objects (Table 5)(Appendix C and D). Far fewer fragments of bone were recovered than Trench A and none were definitely identified as human.

Table 5
Artifacts Recovered from Trench B

Identification	No.	Identification	No.
Burned bone	7	Charcoal	(65.5 g)
Bone	7	Clear glass	3
Unmodified flake	8	Whiteware	1
Modified flake	2	Coal slag	(33.7 g)
Early Archaic pt. fragment	1	Coca-cola bottle	1
FCR	7 (748.9 g)	Plastic	4
Burned clay	(57.4 g)		

Flotation samples were taken from intact deposits in three locations of Trench B. The samples were processed and rough sorted, but not quantified. From Zone 5 in Unit B4 and B5, flakes, fire-cracked rock, bone and charcoal were present. From Zone 2 in Unit B6, flakes, fire-cracked rock, burned bone, charcoal, burned clay, calcite ash and one exfoliated pottery sherd were present. From the Zone 17 (Feature 2,) flakes, burned bone, burned clay, charcoal and shell were recovered.

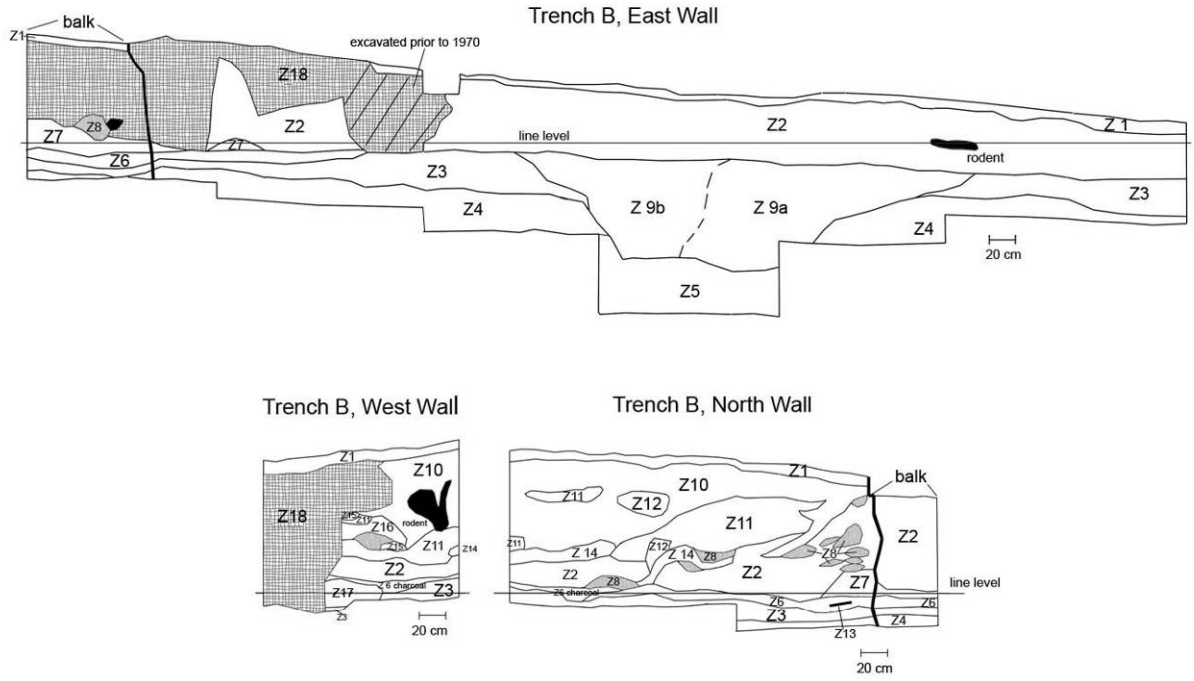
Features

In the western wall and floor of unit B6, a deposit of charcoal, burned clay and calcite were encountered in a dark soil zone (Zone 17) and designated as Feature 2 (Figures 53 & 54). The feature was not fully excavated, but a 20 x 20 cm block of soil was removed for flotation. The deposit was 8 cm thick in the floor, but in the west wall the deposit was approximately 20 cm thick. Charcoal from the soil sample was submitted for AMS dating and the resultant date was 1980 ± 50 BP or cal 40 BC to AD 75 (Beta-133450).

Figure 53. Photograph of Feature 2.

Profile

The re-excavation in Trench B allowed for an approximate 8.8 m north-south segment, a 3.2 m east-west segment, and another 1.5 m north-south section (Figures 54 - 57). In the area of unit B6 (originally S1E6), problems with the original grid were fairly noticeable. This area was excavated in 1965 and 1970. If the seasonal grids from the original excavation matched, then there should have been no intact western wall, because the adjacent unit was excavated. The imprecision of the original grid system should be kept in mind for any future work conducted at Mound 4. The original excavation depths (Swartz 1976, field notes) were compared to the 1999 depths encountered and little difference was noted. However, (Pullen 1971) noted that landscaping, previous excavations and backfilling by bulldozer had altered the mound's topography by 1970.



Zone 1 - A-horizon (recent), 10YR 3/3, silt loam
Zone 2 - 10YR 5/4, silt loam
Zone 3 - 10YR 4/3, silty clay loam
Zone 4 - 10YR 4/4, clay loam with gravel (natural B-horizon)
Zone 5 - 10YR 4/4, stratified sands and gravels (natural B-horizon)
Zone 6 - 10YR 3/2, silt loam (old A-horizon)
Zone 7 - 10YR 4/2, 10YR 6/4 and 5YR 5/6, silty clay loam
Zone 8 - 10YR 5/4, 10YR 7/2 and 10YR 6/6, silt loam (basket loads)
Zone 9a - 10YR 4/4, silt loam (pit)
Zone 9b - 10YR 3/3, clay loam with gravel (pit)
Zone 10 - 10YR 4/4 with 10YR 7/1 mottles, silt loam
Zone 11 - 10YR 3/4, silt loam
Zone 12 - 10YR 4/3, silt loam
Zone 13 - 10YR 7/1, silt (calcite powder)
Zone 14 - 10YR 5/4, silty clay loam
Zone 15 - 10YR 6/4 and 10YR 4/3, silt clay loam with gravel (basket loads)
Zone 16 - 10YR 4/4, 10YR 7/2 and 10YR 6/6, silty clay loam
Zone 17 - 10YR 3/3, silt loam mixed with calcite, charcoal and burned clay
Zone 18 - mixed backfill of previous excavation

Figure 54. Profiles of Trench B.

Figure 55. Photograph of Trench B, East Wall.

Figure 56. Photograph of Trench B, North Wall.

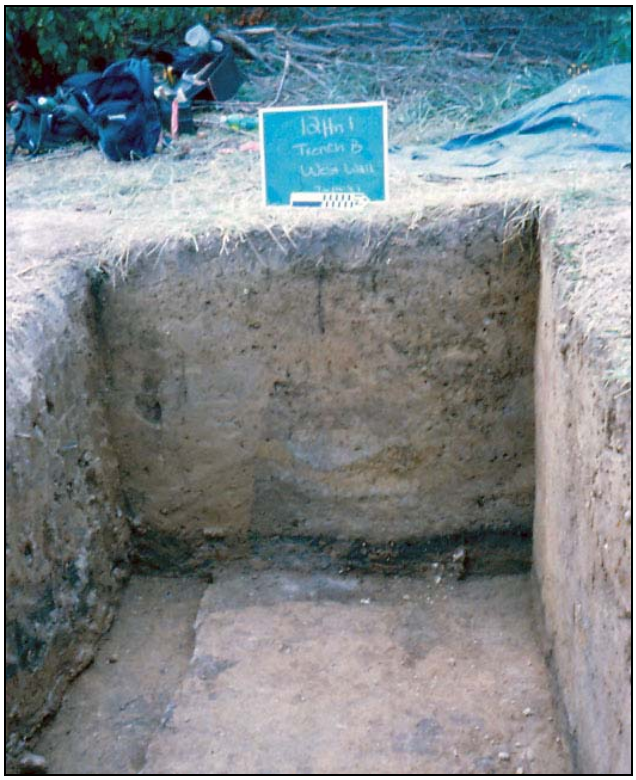


Figure 57. Photograph of Trench B, West Wall.

Discussion of the stratigraphy recorded from the bottom of the excavation to the surface begins with the unaltered B-horizons represented by Zones 4 and 5 (Figure 55). Zone 3 is a homogenous soil that begins the artificial mound construction. Zone 6 is an organic strata with A-horizon characteristics and could represent an old ground surface if mound construction ceased for several years. Zone 13 is a thin calcite layer that occurred within Zone 6 in the north wall of Trench B. Zone 17 is a deposit of calcite, charcoal and burned clay within a dark soil associated with Zone 6 in the west wall of Unit B6. This soil deposit was also encountered in the floor of this unit and designated as Feature 2. Zone 9a and 9b represent a large intrusive pit that originates at the base of Zone 6. The pit was backfilled with different textured and colored soils. Zone 7 caps portions of Zone 6. Zones 2, 8, 10, 11, 12, 14, 15 and 16 combine to create complex stratigraphy. Zone 2 is a substantial capping episode in the east wall, but is in turn capped by Zone 10 in the north wall. Within Zones 2 and 10 are alternating soil strata primarily representing basket loading. Zones 2 and 10 may represent final mound capping episodes, but, based on field notes, thetop portions of the mound were removed by previous excavations. Zone 18 represents areas disturbed by previous excavations. According to the 1970 field notes, an area of previous excavation occurred in S2/E7 and may be evidence of Redding's (1892) excavation trench.

Discussion

The original interpretation describes Mound 4 as an east and west primary mound consisting of extensive ash (calcite) deposits and burial areas (Swartz 1976). Numerous small ash, burned clay, gravel and charcoal deposits were also documented (Swartz 1976). The primary mound areas were connected with a capping episode creating a panduriform shaped mound. Mound 4 was associated with an "attenuated presence of Hopewell ceremonialism" (Swartz 1976:58). Based on excavations at the New Castle site and the Anderson complex, Vickery (1970:147) proposed the New Castle Phase to describe the regional sites based on the resemblances in ceramic attributes, occurrence of geometric earthworks and geographic proximity. The New Castle Phase was viewed as a Middle Woodland manifestation transistional between Adena and Hopewell (Vickery 1979). In 1992, Cochran (1992) began examining the relationship between Adena and Hopewell within east central Indiana. The views of the region have evolved from considering a continuity of Adena and Hopewell without mixing (Cochran 1992), to viewing Adena and Hopewell as two different components of the same contemporaneous ceremonial system (Cochran 1996), to defining the relationship of "Adena" sites reflecting smaller group activities and "Hopewell" sites as the regional corporate group within the same ceremonial system (Cochran and McCord 1996), and proposing that each site served as a location for unique activities and different purposes (McCord 2006). Recognizing that the east central Indiana earthworks are part of a regional network in terms of geography, site structure, chronology and artifacts, led to redefinition and reintroduction of the New Castle Phase (McCord 2006) (Figure 58). Even though the 1999 field school results were not reported, the data obtained from the field school were important in the evolution and redefinition of the New Castle Phase.

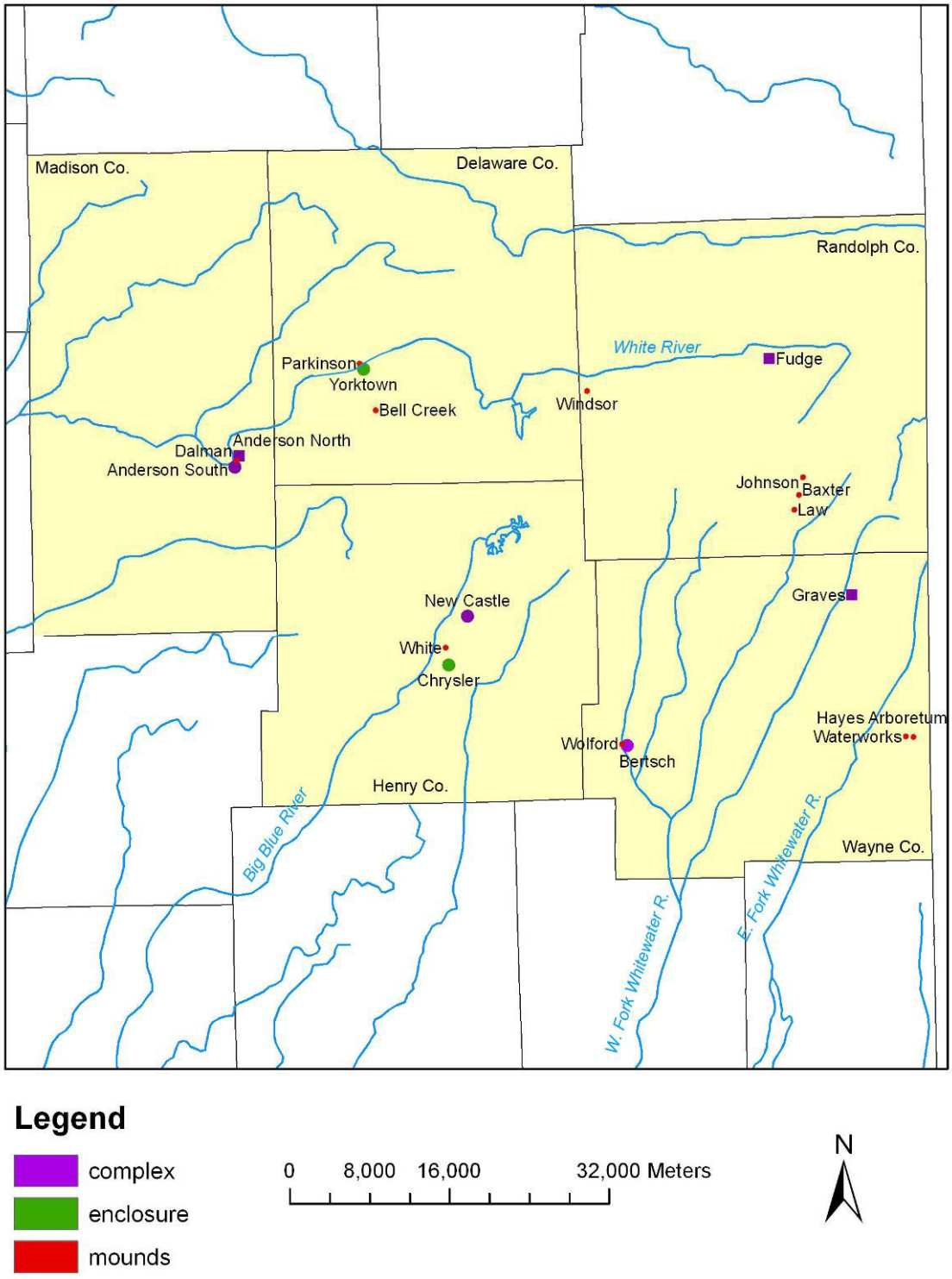


Figure 58. Map of regional earthworks belonging to the New Castle Phase.

The three new radiocarbon dates were integrated into a database of regional radiocarbon dates of east central Indiana earthworks that belong to the New Castle Phase (Table 3) (Figures 59 & 60). The time frame of the New Castle Phase is defined between cal 250 BC and AD 350 based on radiocarbon evidence. A few outlying dates, particularly those with large standard deviations, are beyond this range, but the majority of dates fall within this time frame. A concentration of radiocarbon dates occurs between 100 BC and AD 200.

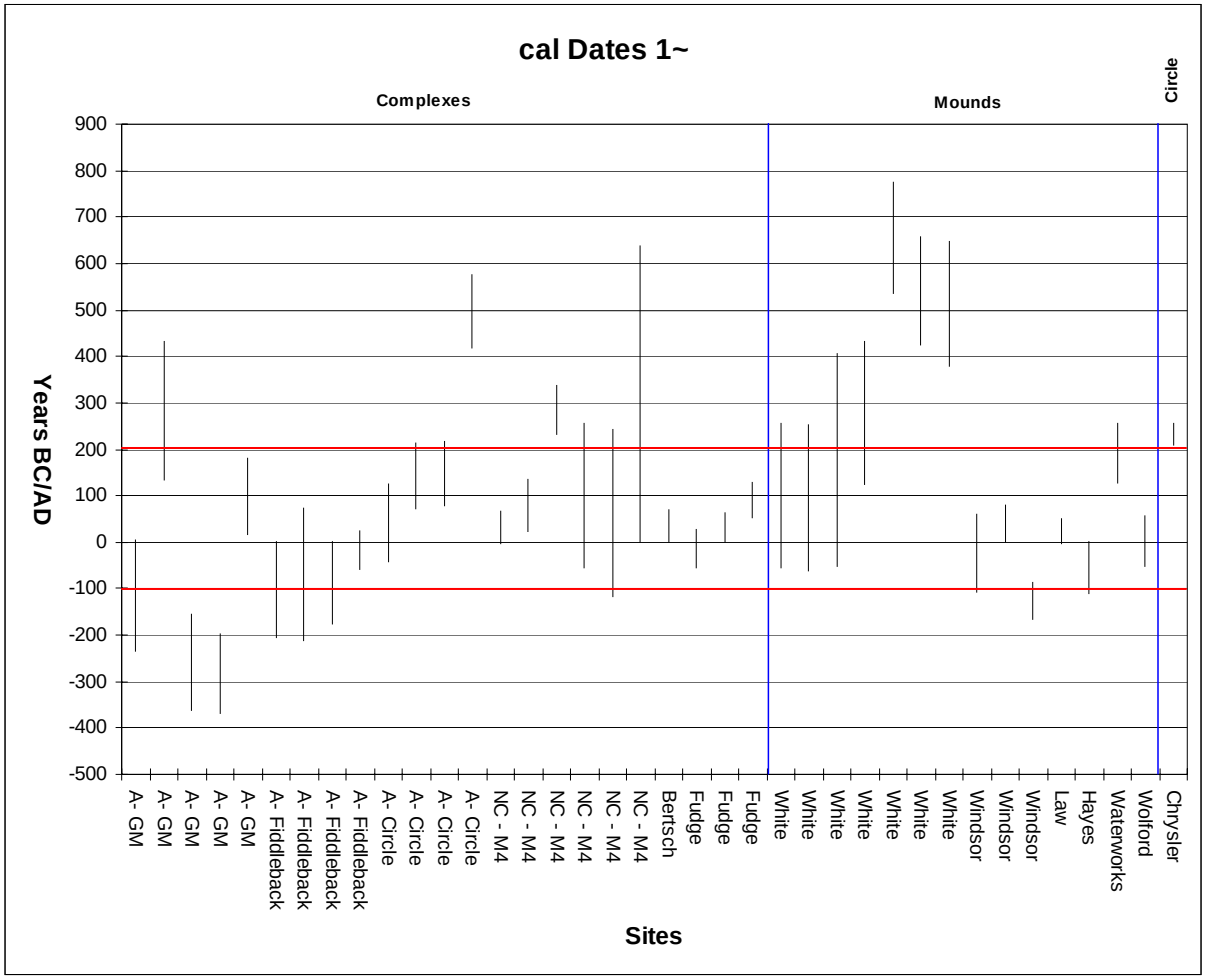


Figure 59. Regional radiocarbon dates, calibrated 1 sigma (Reimer et al. 2004).

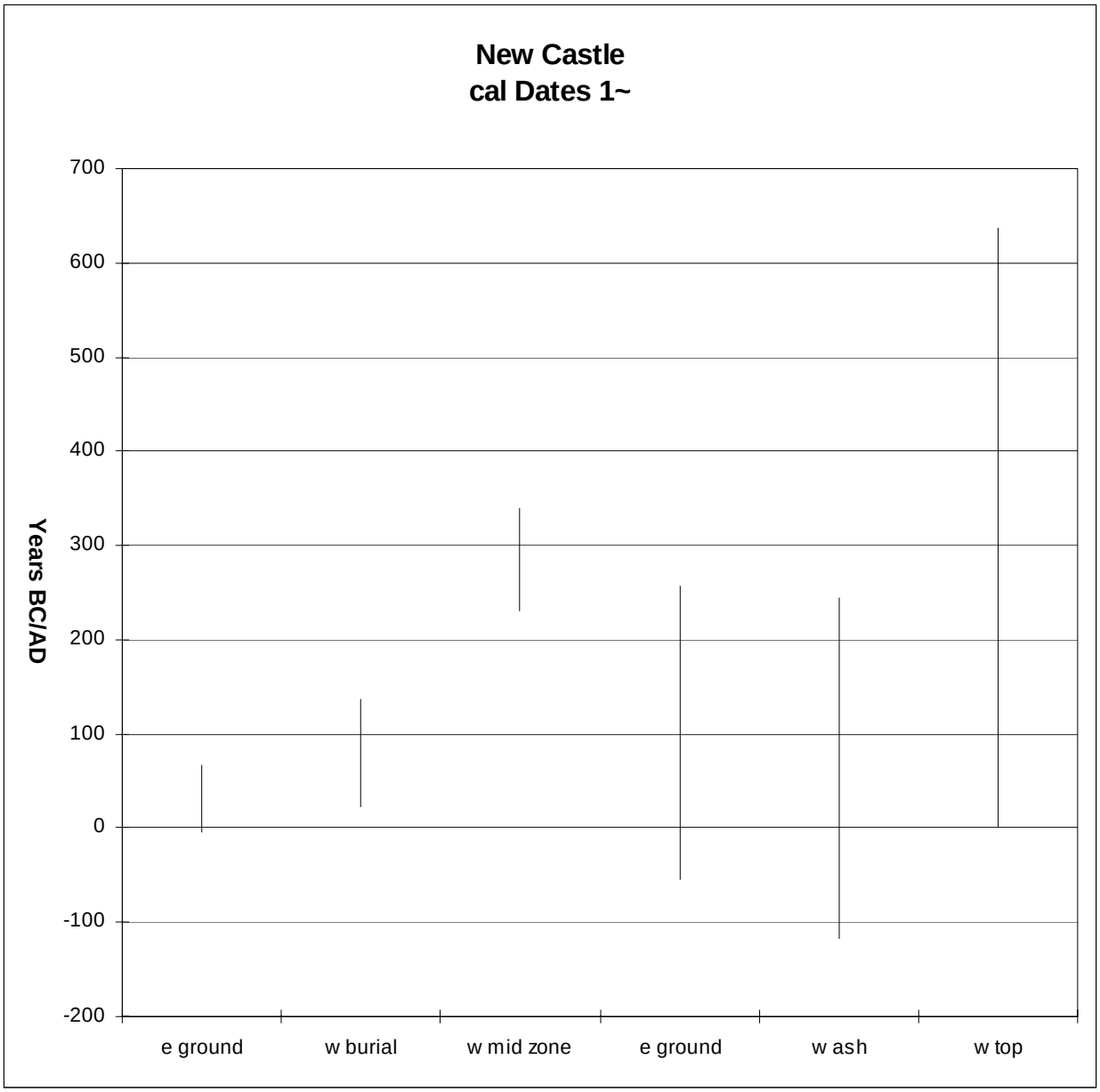


Figure 60. Radiocarbon dates from the New Castle site, calibrated 1 sigma (Reimer et al. 2004).

The new radiocarbon dates from Mound 4 suggest that activities began well after activities were initiated at the Great Mound in the Anderson Complex. The dates from Mound 4 fall well within the regional concentration of radiocarbon dates, but also provide some of the latest accepted dates from the region, cal AD 300+. It must be kept in mind that Mound 4 is the only dated structure within the New Complex and may not be representative of the entire span of cultural activities occurring within the site.

Utilizing the radiocarbon dates and new data recorded from the profiles, new interpretations concerning the structure of Mound 4 were generated. As previous interpreted, the

east and west lobes of Mound 4 were separate (Swartz 1976) and activities spread from west to east (Cochran 1992). Based on the new information, activities in the east and west sides of the mound were occurring concurrently and there was no progression from west to east. As previously noted (McCord 1999), the mound stratigraphy was more complex than previously reported. Multiple construction episodes using a variety of soil types and colors occurred. The range of artifacts previously reported under represents the quantity of lithic debris and fire-cracked rock that occurred within the mound fill. Human remains were incompletely recovered. Figure 61 displays a possible reconstruction of some of the activities that occurred in Mound 4 and the probable sequence of activities. Based on the current data, the interpretations presented in Figure 61 can only be tentative. More profiles of extant portions of the mound and further review of existing field notes is required to further interpretations of Mound 4.

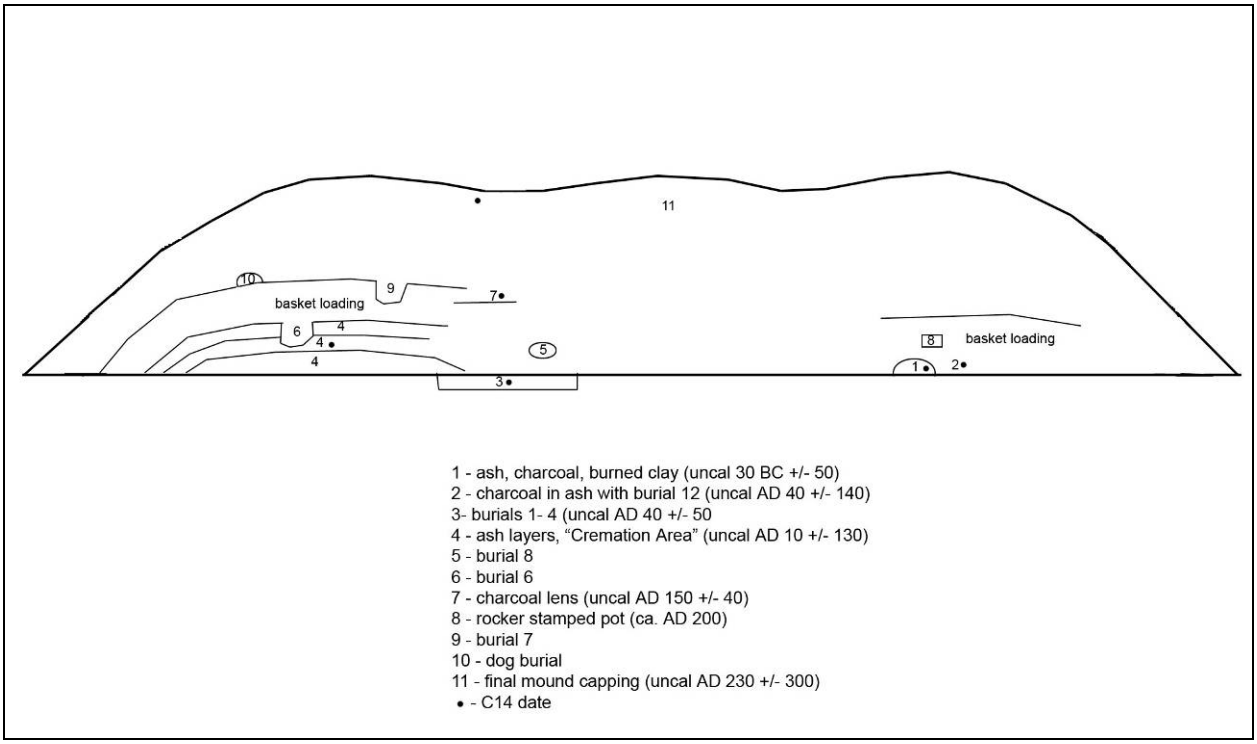


Figure 61. Hypothetical reconstruction of Mound 4 activities.

CONCLUSIONS AND RECOMMENDATIONS

The 1999 field school excavations were conducted at the two best preserved Middle Woodland earthwork complexes in east central Indiana. Both Anderson Mounds and the New Castle complex are already listed on the National Register of Historic Places and offer an opportunity to increase our knowledge of the New Castle Phase. The two complexes are both located on public property, so endangerment of the resources is limited. However, management of the Wilbur Wright Fish and Wildlife area is at times at odds with the conservation of the archaeological resources of the New Castle complex (McCord 2003).

The goals of the 1999 field school focused on refining the chronology and structure of Middle Woodland earthworks. At Anderson Mounds, test excavations also began gathering information from habitation sites located in proximity to the earthworks. The 1999 excavations gathered new or additional information on the structure and building sequence of the Great Mound, Fiddleback Enclosure, Earthwork B and Dalman Mound. Only one radiocarbon date was obtained and it supported the chronology of the Fiddleback Enclosure. The sequence of construction for the Great Mound and Fiddleback Enclosure has been modeled, but the placement of other earthworks is still unsupported by radiocarbon evidence. While we have some idea of the building sequence of the earthworks within Mounds State Park, more archaeological information is necessary to further hypotheses. Further minimally invasive excavations are recommended for all of the earthworks within the Anderson Mounds complex. Chronology, structure and variations in use or function should continue to be part of the research design. Attempts to relocate Earthworks I and K should also been undertaken. Exploration of habitation areas should be considered to determine the nature and range of precontact use within Mounds State Park.

The 1999 field school confirmed that the construction of Mound 4 at the New Castle complex was more complicated than previously reported. The three additional radiocarbon dates obtained during this project suggested a different interpretation of the sequence of activities within the mound. Intact areas of the mound still exist and more information could be obtained by documenting other profile sections. A critical and expansive review of the field notes from 1965 to 1971 could potentially provide new interpretations of the mound construction. The other surviving earthworks within the New Castle complex are virtually unknown. Like the Earthworks B and D at Mounds State Park, the circular enclosures at New Castle have been frugal in providing archaeological data. Future research should not discount the potential of these structures. Determining the chronology of construction and possible variations in function should be further explored at the New Castle complex.

Ultimately the data obtained during the 1999 field school has helped to further and to refine the view of the New Castle Phase and New Castle Phase sites within east central Indiana. The Anderson Mounds complex and the New Castle complex are integral components in researching the Middle Woodland ceremonial landscape. Continued study and management of these impressive resources should be maintained.

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Appendix A

Chipped Stone Artifact Classification

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Chipped Stone Artifact Classification

Core. A core is a nucleus of stone exhibiting one or more negative flake scars (Crabtree 1972:54). Objects categorized as cores may range from a simple nucleus with only one negative flake scar to specialized forms with multiple flake removals. Striking platforms may be prepared or unprepared. Cores can be subdivided into more specific types (cf. Monet-White 1963:6-7; Callahan 1979:41; Wepler and Cochran 1983:38-40).

Biface. An artifact with negative flake scars covering both surfaces either partially or wholly is herein termed a biface (Crabtree 1972:38; Tixier 1974:4). As used here, a biface has no modification for hafting and bifaces are viewed as stages in the manufacture of points. In order to avoid confusion, the terms "blank", "blade", and "preform" are not normally applied to bifaces. Blank and preform are general terms that can be applied to a number of manufacturing sequences (e.g., gorget blank or preform, celt blank or preform, etc.). Use of the term blade is restricted to a specific of type flake with parallel sides and a length that is two times greater than width, or a particular portion of a point: the blade element. In the latter case, the term is only used when discussing points. Callahan (1979) separates bifaces into stages or levels of reduction beginning with the selection of the raw material (Stage 1) and continuing through successive levels of refinement (Stages 2, 3, 4, etc.).

Stage 2 Bifaces. A stage 2 biface is defined as "that stage during which the core blank or spall is given an edge . . . or, where the edge is too sharp and low-angled,. . it is thickened so that roughly centered, circumferential edge-angles of between 55 degrees to 75 degrees result. Flake scars may cover less than half of the width of the biface, producing a hexagonal, irregular to thick lenticular cross-section" (Callahan 1979:36).

Stage 3 Bifaces. Stage 3 bifaces represent "that stage (primary thinning) during which a lenticular cross-section is obtained by means of striking so as to drive flakes from the edge to or slightly beyond the center of the biface, contacting or slightly undercutting similar flake scars taken from the opposite margin. . . . Aligned, centered edge-angles of between 40 and 60 degrees should result so that secondary thinning may be effected subsequently" (Callahan 1979:37).

Stage 4 Bifaces. Stage 4 bifaces represent "that stage (secondary thinning) in which a flattened cross-section is obtained by means of striking flakes so that they considerably undercut prior flake scars from the opposite margin and so that the width/thickness ratio is made to fall between roughly 4.00 and 5.00 or more. Aligned, centered edge-angles of between 25 and 45 degrees and surfaces without significant humps, hinges, step-fractures, or median convexity. . ." (Callahan 1979:37).

Biface Fragment. Biface fragments consist of various portions of bifaces broken either during manufacture or through use.

Flake. A flake is "any piece of stone removed from a larger mass by the application of force - either intentional, accidentally, or by nature" (Crabtree 1972:64).

Unmodified Flakes. Artifacts in this class have one or more positive or negative flake attributes (Watson 1956:17; Oakley 1957:16). Flake margins show no evidence of use or retouch.

Notch Flakes. A notch flake is "the result of pressure flaking to remove notches along the basal and/or lateral margins of a biface in order to create a hafting element" (Austin 1986:96). They are defined as having "a peculiar half-cone shape" (Waldorf 1984:35) that makes them distinctive. "The most recognizable and distinctive characteristic of the flake is the presence of a recessed, U-shaped platform. While most flakes exhibit a relatively straight, continuous margin at the juncture of the striking platform and dorsal flake surface, the notching flake is typified by a deep, semi-circular scallop which is the result of prior notching" (Austin 1986:96).

Block Flakes. Block flakes are sharp-edged, irregularly shaped pieces of isotropic stone that lack a striking platform, a positive or negative bulb of percussion, compression rings, or any other attribute associated with conchoidal fracture. Block flakes may occur naturally through frost cracking or uncontrolled heating (Watson 1956:19-21: Oakley 1956:9-11). They can also be produced during chipped stone reduction where the raw material has been exposed to either of the above processes or when the material breaks along internal planes of weakness. In an archaeological assemblage, block flakes would occur in greater percentages where early stages of reduction occurred.

Edge Modified Flakes. Edge modified flakes are unspecialized flake tools distinguished by regular edge wear or retouch. The former is most often recognized as a continuous row of small flakes removed along one flake edge. Flake margins can be modified during cultivation of a site, by lake shore erosion, spontaneous retouch during lithic reduction, and a variety of other natural and mechanical processes. Retouched flakes can represent one resharpening of a dulled flake margin to conservation of a flake through extensive resharpening. objects in this class are usually not morphologically distinct, and the class encompasses a wide range of diversity in size, shape, and construction of the retouched edge or edges. It is not normally possible to distinguish between prehistoric utilization and edge damage resulting from other causes without microscopic examination of all flake margins. For this classification, all flakes with regular edge modification were sorted into this class.

Blades. A blade is a specialized flake that has more-or-less parallel sides and is at least twice as long as it is wide. Thickness varies little along the length of the blade. Blades also have straight, parallel, or converging ridges on the dorsal surface (Movius et al. 1968:4; Crabtree 1972:42)

Gravers. A flake, blade or other artifact that exhibits one or more small sharp points (graver spurs) intentionally retouched from one or more margins of the artifact is classified as a graver (Crabtree 1972:68: Nero 1957:300). The retouching that isolates the graver spur may be unifacial or bifacial.

Denticulate. Artifacts in this class are distinguished by a toothed or serrated edge created by the alternating removal of a series of flakes from the margin of a flake, biface or core (Crabtree 1972:58). Cores with unprepared platform edges and nonmarginal areas of applied force may exhibit "denticulate" edges but are not included in this class.

Endscraper. Endscrapers are a morphologically distinct unifacial tool form resulting from the concentration of retouch on one end of a flake or blade (Crabtree 1972:60; Movius et al. 1968:9).

Point. A point is "any bifacially flaked, bilaterally symmetrical, chipped stone artifact exhibiting a point of juncture on one (distal) end and some facility (notching, constriction, lateral grinding) for hafting on the opposite (proximal) end. Thus, *point* is a morphological defined class of chipped stone tool, and the term . . . does not convey any particular functional interpretation" (Ahler and McMillan 1976:165).

Point Fragments. Broken portions of points are sorted into this category. Hafting elements from broken points are, however, when distinctive, classified as points.

Perforator. "Bifacially chipped stone artifacts or artifact fragments with extremely narrow, parallel-sided blades and steep angled lateral edges are classified as perforators" (Ahler and McMillan 19766:179). Perforators are equivalent to artifacts frequently referred to as drills. Perforator is herewith preferred due to the more generalized suggestion of function as a piercing tool. Some artifacts in this class may represent exhausted cutting tools.

Bipolar Artifacts. This category includes those artifacts that are the result of bipolar flaking. Bipolar flaking involves resting a stone nucleus on an anvil and striking the nucleus with a hammerstone or billet (Flenniken 1982:32). The artifacts that result from bipolar flaking include bipolar cores (Hayden 1980:23), bipolar flakes (Kobuyashi 1975), and pieces esquillees (Hayden 1980:2-3). Bipolar cores exhibit opposing striking platforms of several types (Binford and Quimby 1964) and prominent negative flake scars. Bipolar flakes consist of the flakes detached during bipolar flaking. *Pieces esquilles* are similar to bipolar cores except that they exhibit opposing ridge striking platforms and lack prominent negative flake scars; pieces esquillee tend to be rectangular while bipolar cores may exhibit any number of forms.

There is confusion in the archaeological literature in the use of the terms "bipolar core" and "*pieces esquillee*". Some investigators use them interchangeably while others designate all bipolar nuclei as *pieces esquillee* (Hayden 1980). For the purposes of this classification, all bipolar artifacts are grouped under the single heading "bipolar artifact".

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Appendix B

Anderson Mounds Artifact Catalog

Appendix B
Anderson Mounds Artifact Catalog

Catalog Number	Identification	XU	Level	Provenience	Weight	No	Association
99.85.01.001	glass.container.amber	99A1	1		0	2	
99.85.01.002	glass.container.clear	99A1	1		0	1	
99.85.01.003	fastener	99A1	1		0	1	
99.85.01.004	metal.unid	99A1	1		0	1	
99.85.01.005	flora.charcoal	99A1	1		2.5	10	
99.85.01.006	soil.burned	99A1	1		0	3	
99.85.01.007	glass.container.clear	99A1	1		0	3	
99.85.01.008	flora.charcoal	99A1	1		1.75	8	
99.85.01.009	FCR	99A1	1		251.5	3	
99.85.01.010	flora.charcoal	99A1	1		1.4	2	
99.85.01.011	flora.charcoal.cln smpl	99A1	1		0.4	0	69cm N, 39cm E, 76cm dbd
99.85.01.012	soil samples	99A1	all		0	3	North wall
99.85.02.001	glass.container.clear	99B1	1		0	1	
99.85.02.002	FCR	99B1	1		15	1	
99.85.02.003	FCR	99B2	2		21	1	
99.85.02.004	flora.charcoal.cln smpl	99B2	2		0.2	0	7cm E, 83cm N, 52cm dbd
99.85.02.005	flora.charcoal.cln smpl	99B2	2		0.1	0	SW corner
99.85.02.006	FCR	99B2	3		7.7	1	
99.85.02.007	flora.charcoal.cln smpl	99B2	3		0.2	0	76cm E, 7cm N, 50cm dbd
99.85.02.008	flora.charcoal.cln smpl	99B2	3		0.1	0	48cm E, 49cm N, 49cm dbd
99.85.02.009	flora.charcoal.cln smpl	99B2	3		1.8	0	75cm E, 7cm N, 49 cm dbd
99.85.02.010	FCR	99B2	4		12.8	1	
99.85.03.001	lithic.UM flake.wyandotte	99E1	1		0	1	
99.85.03.002	flora.charcoal	99E1	1		1.9	3	
99.85.03.003	glass.container.clear	99E1	2		0	1	
99.85.03.004	metal.unid	99E1	2		0	1	
99.85.03.005	coal.slag	99E1	2		47.7	15	
99.85.03.006	flake.hd.wyandotte	99E1	3		0	1	
99.85.03.007a	lithic.UM flake.attica	99E1	3		0	3	
99.85.03.007b	lithic.UM flake.laurel	99E1	3		0	2	
99.85.03.008	glass.container.clear	99E1	3		0	2	
99.85.03.009	coal.slag	99E1	3		9.8	8	
99.85.03.010	FCR	99E1	3		77.5	14	
99.85.03.011	flora.charcoal.cln smpl	99E1	3	three samples	0.88	3	
99.85.03.012	flora.charcoal	99E1	4		2.3	0	
99.85.03.013	lithic.UM flake.ht.fall creek	99E1	5		0	1	
99.85.03.014	lithic.UM flake.laurel	99E1	5		0	1	
99.85.03.015	FCR	99E1	5		5.2	3	
99.85.03.016	flora.charcoal.cln smpl	99E1	5		0.9	0	17cm N, 29cm E, 71.5cm dbd
99.85.03.017	flora.charcoal.cln smpl	99E1	5	wt w/foil	4	0	108cmN, 35cmE, 71cm dbd
99.85.03.018	FCR	99E1	6		35.8	2	
99.85.03.019	flora.charcoal.cln smpl	99E1	6		0.6	0	173cmN, 39cmE, 77cm dbd
99.85.03.020	flora.charcoal.cln smpl	99E1	6		0.5	0	154cmN, 31cmE, 78cm dbd
99.85.03.021	flora.charcoal.cln smpl	99E1	6		0.2	0	no information
99.85.03.022	flora.charcoal.cln smpl	99E1	6		0.6	0	165cmN, 42cmE, 77 dbd
99.85.03.023	soil samples	99E1	all		0	4	
99.85.04.001	lithic.UM flake.unid type	99H1	1		0	1	
99.85.04.002	lithic.UM flake.fall creek	99H1	1		0	1	
99.85.04.003	type	99H1	1		0	1	
99.85.04.004	lithic.mod flake.attica	99H1	1		0	10	
99.85.04.005	pottery.body.exfoliated	99H1	1		0	3	
99.85.04.006	pottery.body.plain	99H1	1		0	2	
99.85.04.007	pottery.rim.incised	99H1	1		0	1	
99.85.04.008	fauna.bone.burned	99H1	1		0	39	
99.85.04.009	limestone.burned	99H1	1		0	3	
99.85.04.010	ash	99H1	1		0	4	

99.85.04.011	clay.burned	99H1	1		99.5	0	
99.85.04.012	FCR	99H1	1		48.5	0	
99.85.04.013	lithic.UM flake.hd.unid type	99H1	2		0	10	
99.85.04.014	lithic.UM flake.hd.unid type	99H1	2		0	2	
99.85.04.015	lithic.block.laurel	99H1	2		0	1	
99.85.04.016	lithic.UM flake.hd.laurel	99H1	2		0	1	
99.85.04.017	daub	99H1	2		0	3	
99.85.04.018	ash	99H1	2		0	1	
99.85.04.019	limestone	99H1	2		0	4	
99.85.04.020	clay.burned	99H1	2		119	0	
99.85.04.021	fauna.bone.unid	99H1	2		0	4	
99.85.04.022	fauna.bone.unid/human?	99H1	2		0	28	
99.85.04.023	FCR	99H1	2		66	2	
99.85.04.024	pottery.body.plain	99H1	3		0	2	
99.85.04.025	clay.burned	99H1	3		32.5	0	
99.85.04.026	ash	99H1	3		0	1	
99.85.04.027	daub	99H1	3		0	1	
99.85.04.028	fauna.bone.unid/human	99H1	3		0	1	
99.85.04.029	FCR	99H1	3		6.5	1	
99.85.04.030	lithic.UM flake.hd.unid type	99H1	4		0	1	
99.85.04.031	lithic.UM flake.laurel	99H1	4		0	1	
99.85.04.032	clay.burned	99H1	4		19.4	0	
99.85.04.033	fauna.teeth.deer	99H1	4		0	2	
99.85.04.034	fauna.bone.unid	99H1	4		0	11	
99.85.04.035	clay.burned	99H1	walls		17.4	0	
99.85.04.036	fauna.bone.unid	99H1	walls		0	1	
99.85.04.037	fauna.bone.unid/human?	99H1	walls		0	11	
99.85.04.038	clay.burned	99H1	F4B		2.5	0	
99.85.04.039	fauna.bone.unid/human?	99H1	F4B		0	6	
99.85.04.040	clay.burned	99H1	F4A		11.5	0	
99.85.04.041	fauna.bone.unid/human?	99H1	F4A		0	6	
99.85.04.042	soil samples	99H1	all		0	0	
99.85.04.043	collumn sample	99H1	F8		0	0	
99.85.04.044	bone, burned clay	F4a		37 - 44 cm	0	0	
99.85.04.045	charcaol	F4a		44 - 48 cm	0	0	
99.85.04.046	burned bone, bone,	F4b			0	0	
99.85.04.047	bone, flakes	F4b		38 - 42 cm	0	0	
99.85.04.048	fcr	F4b		42 - 51 cm	0	0	
99.85.05.001	glass.container.clear	99H2	1		0	1	
99.85.05.002	coal.slag	99H2	1		1.5	2	
99.85.05.003	FCR	99H2	1		21.2	4	
99.85.05.004	lithic.UM flake.ht.laurel	99H2	2		0	1	
99.85.05.005	glass.container.clear	99H2	2		0	1	
99.85.05.006	FCR	99H2	2		106.3	8	
99.85.05.007	FCR	99H2	3		347.9	2	
99.85.05.008	flora.charcoal.cln smpl	99H2	3	near borrow	0.1	0	50cmN, 69cmE, 37cm dbd
99.85.05.009	flora.charcoal.cln smpl	99H2	3		0.4	0	78cmN, 90cmE, 41cm dbd
99.85.05.010	flora.charcoal.cln smpl	99H2	3		0.1	0	99cmN, 25cmE, 41cm dbd
99.85.05.011	flora.charcoal.cln smpl	99H2	4		0.1	0	70cmN, 51cmE, 51cm dbd
99.85.05.012	flora.charcoal.cln smpl	99H2	4		0.2	0	82cmN, 58cmE, 51cm dbd
99.85.05.013	flora.charcoal.cln smpl	99H2	4	found in screen	0.3	0	
99.85.05.014	lithic.bipolar flake.laurel	99H2	5		0	1	
99.85.05.015	FCR	99H2	4		59.3	1	
99.85.05.016	flora.charcoal.cln smpl	99H2	5		0.2	0	63cmN, 3cmE, 63cm dbd
99.85.05.017	flora.charcoal.cln smpl	99H2	5		0.3	0	71cmN, 76cmE, 56cm dbd
99.85.05.018	flora.charcoal.cln smpl	99H2	5	found out of context	0.1	0	
99.85.05.019	flora.charcoal.cln smpl	99H2	5		0.1	0	78cmN, 56cmE, 57cm dbd

99.85.05.020	flora.charcoal.cln smpl	99H2	5		0.2	0	11cmN, 76cmE, 54cm dbd
99.85.05.021	flora.charcoal.cln smpl	99H2	5		0.4	0	73cmN, 16cmE, 62cm dbd
99.85.05.022	flora.charcoal.cln smpl	99H2	5		0.7	0	57-61cmN, 18cmE, 62cm dbd
99.85.05.023	flora.charcoal.cln smpl	99H2	5		1.1	0	43cmN, 13cmE,58cm dbd
99.85.05.024	flora.charcoal.cln smpl	99H2	5		0.7	0	52cmN, 23cmE,59cm dbd
99.85.05.025	lihic.UM flake.ht.laurel	99H2	6		0	1	
99.85.05.026	FCR	99H2	6		227.5	2	
99.85.05.027	flora.charcoal.cln smpl	99H2	5		0.1	0	69cmN, 16cmE, 63cm dbd
99.85.05.028	flora.charcoal.cln smpl	99H2	6		-0.1	0	44cmN, 21cmE, 68cm dbd
99.85.05.029	flora.charcoal.cln smpl	99H2	6		0.6	0	39cmN, 8cmE, 65cm dbd
99.85.05.030	flora.charcoal.cln smpl	99H2	6		2.8	0	64-65cmN, 9cmE,70cm dbd
99.85.05.031	flora.charcoal.cln smpl	99H2	6		0.3	0	53cmN, 68cmE, 74cm dbd
99.85.05.032	flora.charcoal.cln smpl	99H2	6		1	0	53cmN, 68cmE, 74cm dbd
99.85.05.033	flora.charcoal.cln smpl	99H2	6		0.3	0	71cmN, 14cmE, 66cm dbd
99.85.05.034	flora.charcoal.cln smpl	99H2	6		3.1	0	44cmN, 10cmE, 65 cm dbd
99.85.05.035	flora.charcoal.cln smpl	99H2	6		0.48	0	63cmN, 15cmE, 64cm dbd
99.85.05.036	flora.charcoal.cln smpl	99H2	6		705.2	0	79cm dbd
99.85.05.037	flora.charcoal.cln smpl	99H2	7	bone	0.8	0	dbd
99.85.05.038	flora.charcoal.cln smpl	99H2	7		0.6	0	dbd
99.85.05.039	flora.charcoal.cln smpl	99H2	7		2.7	0	44cmN, 82cmE,80cm dbd
99.85.05.040	flora.charcoal.cln smpl	99H2	7		0.3	0	46cmN, 84cmE, 80cm dbd
99.85.05.041	flora.charcoal.cln smpl	99H2	7		0.1	0	48cmN, 80cmE, 80cm dbd
99.85.05.042	flora.charcoal.cln smpl	99H2	7		0.1	0	72cmN, 80cmE, 80cm dbd
99.85.05.043	flora.charcoal.cln smpl	99H2	7		0.1	0	28cmN, 78cmE, 73cm dbd
99.85.05.044	flora.charcoal.cln smpl	99H2	7		1.9	0	21cmN, 85cmE, 76cm dbd
99.85.05.045	flora.charcoal.cln smpl	99H2	7		0.1	0	22cmN, 52cmE, 78cm dbd
99.85.05.046	flora.charcoal.cln smpl	99H2	7		0.1	0	78cm dbd
99.85.05.047	lithic.core.laurel	99H2	8		0	1	
99.85.05.048	FCR	99H2	8		148	1	
99.85.05.049	flora.charcoal.cln smpl	99H2	F6		3	0	dbd
99.85.05.050	flora.charcoal.cln smpl	99H2	F6		0.7	0	66cmN,12cmE,67cmdbd
99.85.05.051	flora.charcoal.cln smpl	99H2	F6		2.4	0	dbd
99.85.05.052	flora.charcoal.cln smpl	99H2	F6		0.5	0	63cmN, 10cmE, 65cm dbd
99.85.05.053	clay.burned	99H2	F6		98.7	0	66cm dbd
99.85.05.054	soil smpls, inc F6	99H2	all		0	0	
99.85.05.055	charcoal, burned soil	F6			0	0	
99.85.06.001	flora.charcoal	99H3	1		1.7	0	
99.85.06.002	glass.container.clear	99H3	2		0	1	
99.85.06.003	flora.charcoal	99H3	2		0.8	0	
99.85.06.004	lithic.hammerstone	99H3	2		0	1	
99.85.06.005	flora.charcoal.cln smpl	99H3	3		0.3	0	no info given
99.85.06.006	flora.charcoal.clm smpl	99H3	4		0.9	0	no info given
99.85.06.007	flora.charcoal	99H3	4		1.1	0	
99.85.06.008	FCR	99H3	4		52.1	0	
99.85.06.009	flora.charcoal	99H3	5		1.6	0	
99.85.06.010	FCR	99H3	5		127.4	2	
99.85.06.011	flora.charcoal	99H3	6		0.5	0	
99.85.06.012	FCR	99H3	6		411.5	0	
99.85.06.013	lithic.UM flake.laurel	99H3	7		0	1	
99.85.06.014	soil samples	99H3	all		0	0	
99.85.07.001	litic.UM flake.laurel	99H3	e		0	1	
99.85.07.002	FCR	99H3	e		7.8	0	
99.85.07.003	lithic.block.hd.unid type	99H3	e		0	1	
99.85.07.004	fauna.bone.unid	99H3	e		0	1	
99.85.07.005	fauna.bone.unid.burned	99H3	1		0	1	
99.85.07.006	lithic.UM flake.attica	99H3	1		0	1	
99.85.07.007	clay.burned	99H3	1		7.9	0	

99.85.07.008	FCR	99H3	1		10	3	
99.85.07.009	lithic.UM glacial	99H3	1		0	7	
99.85.07.010	pottery.body.plain	99H3	1		0	1	
99.85.07.011	flora.charcoal	99H3	2		2.3	0	
99.85.07.012	pottery.body.eroded	99H3	2		0	8	
99.85.07.013	lithic.UM flake.wyandotte	99H3	2		0	1	
99.85.07.014	clay.burned	99H3	2		6.1	0	
99.85.07.015	lithic.UM flake.fall creek	99H3	2		0	4	
99.85.07.016	lthic.UM flake.ht.wyandotte	99H3	2		0	1	
99.85.07.017	lithic.UM flake.attica	99H3	2		0	1	
99.85.07.018	lithic.UM flake.hd.unid type	99H3	2		0	1	
99.85.07.019	lithic.UM flake.laurel	99H3	2		0	5	
99.85.07.020	lithic.UM flake.hd.laurel	99H3	2		0	2	
99.85.07.021	lithic.UM flake.unid type	99H3	2		0	1	
99.85.07.022	fauna.bone.unid.burned	99H3	2		0	1	
99.85.07.023	FCR	99H3	2		165.9	13	
99.85.08.001	lithic.UM flake.laural	99H5	e		0	1	
99.85.08.002	fauna.bone.burned	99H5	e		0	10	
99.85.08.003	clay.burned	99H5	e		7	0	
99.85.08.004	daub	99H5	e		0	1	
99.85.08.005	FCR	99H5	e		40	1	
99.85.08.006	lithic.UM flake.ht.laurel	99H5	1		0	1	
99.85.08.007	lithic.UM flake.laurel	99H5	1		0	1	
99.85.08.008	lithic.block.hd.unid type	99H5	1		0	1	
99.85.08.009	lithic.UM flake.ht.fall creek	99H5	1		0	1	
99.85.08.010	lithic.UM flake.unid type	99H5	1		0	2	
99.85.08.011	other chipped stone-OCS	99H5	1		21.3	2	
99.85.08.012	pottery.body.plain	99H5	1		0	8	
99.85.08.013	pottery.body.eroded	99H5	1		0	6	
99.85.08.014	fauna.bone.unid	99H5	1		0	1	
99.85.08.015	fauna.bone.unid.burned	99H5	1		0	63	
99.85.08.016	clay.burned	99H5	1		49.2	0	
99.85.08.017	flora.charcoal	99H5	1		0.8	0	
99.85.08.018	FCR	99H5	1		235	7	
99.85.08.019	flora.charcoal.cln smpl	99H5	1	two samples	0.9	0	37cm dbd
99.85.08.020	flora.charcoal.cln smpl	99H5	1		3.1	0	38-44cm dbd
99.85.08.021	flora.charcoal.cln smpl	99H5	2		0.2	0	no info given
99.85.08.022	flora.charcoal.cln smpl	99H5	2		0.4	0	no info given
99.85.08.023	lithic.UM flake.ht.laurel	99H5	2		0	2	
99.85.08.024	lithic.UM flake.laurel	99H5	2		0	2	
99.85.08.025	lithic.UM flake.fall creek	99H5	2		0	2	
99.85.08.026	pottery.body.eroded	99H5	2		0	4	
99.85.08.027	flora.charcoal	99H5	2		0.6	0	
99.85.08.028	ash and clay.burned	99H5	2		0	2	
99.85.08.029	clay.burned	99H5	2		10	0	
99.85.08.030	fauna.unid.burned	99H5	2		0	16	
99.85.08.031	FCR	99H5	2		7.1	0	
99.85.08.032	shell.mussel	99H5	3		0	2	
99.85.08.033	FCR	99H5	3		0	2	
99.85.08.034	flora.charcoal.cln smpl	99H5	4		0	0.1	
99.85.08.035	faunal.bone.unid.burned	99H5	4		0	2	
99.85.08.036	metal.pers.pennies "1988"	99H5	4	from 1988 excavation	0	2	
99.85.08.037	shell.mussel	99H5	wall		0.6	2	
99.85.08.038	pottery.body.plain	99H5	wall		0	2	
99.85.08.039	insed	99H5	wall		0	1	
99.85.08.040	fauna.bone.unid	99H5	wall		0	1	
99.85.08.041	fauna.bone.unid.burned	99H5	wall		0	14	

99.85.08.042	clay.burned	99H5	wall		2.2	2	
99.85.08.043	soil samples	99H5	all		0	0	
99.85.09.001	metal.pers.penny "191?'	99I1	e		0	1	
99.85.09.002	glass.flat.clear	99I1	e		0	2	
99.85.09.003	ceramic.porcelain.insulator	99I1	e		0	1	
99.85.09.004	class.container.clear	99I1	1		0	1	
99.85.09.005	glass.container.brown	99I1	1		0	3	
99.85.09.006	metal.hdware.unid	99I1	1		0	1	
99.85.09.007	lithic.UM flake.laurel	99I1	1		0	1	
99.85.09.008	glass.rod.blue	99I1	1		0	3	
99.85.09.009	glass.container.clear	99I1	1		0	10	
99.85.09.010	FCR	99I1	1		30.6	1	
99.85.09.011	ceramic.porcelain.insulator	99I1	1		0	3	
99.85.09.012	d	99I1	1		0	10	
99.85.09.013	glass.flat.clear	99I1	1		0	30	
99.85.09.014	metal.unid.corroded	99I1	2		0	2	
99.85.09.015	flora.wood	99I1	2		0	1	
99.85.09.016	metal.hdware.nails.wire	99I1	2		0	7	
99.85.09.017	FCR	99I1	2		104.5	4	
99.85.09.018	glass.flat.clear	99I1	2		0	3	
99.85.09.019	base	99I1	2		0	2	
99.85.09.020	metal.hdware.staple	99I1	2		0	1	
99.85.09.021	ceramic.porcelain.insulator	99I1	2		0	2	
99.85.09.022	glass.container.brown	99I1	2		0	2	
99.85.09.023	glass.container.clear	99I1	2		0	17	chimney or lightbulb glass
99.85.09.024	lithic.UM flake.laurel	99I1	3		0	20	
99.85.09.025	glass.container.clear	99I1	3		0	1	
99.85.09.026	glass.container.brown	99I1	3		0	1	
99.85.09.027	glass.container.clear	99I1	3		0	8	chimney or lightbulb glass
99.85.09.028	FCR	99I1	3		145.5	3	
99.85.09.029	flora.charcoal.cln smpl	99I1	3		0.1	1	
99.85.09.030	glass.container.brown	99I1	4		0	2	
99.85.09.031	glass.container.clear	99I1	4		0	1	
99.85.09.032	FCR	99I1	4		681.4	9	
99.85.09.033	flora.charcoal.cln smpl	99I1	4		0.2	1	
99.85.10.001	metal.hdware.nails.wire	99K1	1		0	13	
99.85.10.002	bldmat.brick.frag	99K1	1		0	4	
99.85.10.003	metal.personal.22shell	99K1	1		0	1	
99.85.10.004	lithic.UM flake.laurel	99K1	1		0	1	
99.85.10.005	glass.container.clear	99K1	1		0	1	
99.85.10.006	glass.flat.clear	99K1	1		0	2	
99.85.10.007	ceramic.porcelain.frag	99K1	1		0	1	
99.85.10.008	bldmat.concrete	99K1	1		0	0	
99.85.10.009	glass.container.amythest	99K1	2		0	3	
99.85.10.010	glass.container.clear	99K1	2		0	3	
99.85.10.011	metal.hdware.nails.wire	99K1	2		0	10	
99.85.10.012	flora.charcoal	99K1	2		0	2	
99.85.10.013	lithic.glacial	99K1	2		0	1	
99.85.10.014	lithic.UM flake.laurel	99K1	2		0	2	
99.85.10.015	bldmat.concrete	99K1	2		0	1	
99.85.10.016	FCR	99K1	2		0	7	
99.85.10.017	FCR	99K1	3		0	5	
99.85.10.018	d	99K1	3		0	2	
99.85.10.019	glass.container.clear	99K1	3		0	1	
99.85.10.020	flora.charcoal.cln smpl	99K1	3		0	1	no info given
99.85.10.021	bldmat.brick.unid	99K1	4		0	1	
99.85.11.001	lithic.mod flake.fall creek	Dal	1		0	1	

99.85.11.002	FCR	Dal	1		214.1	7	
99.85.11.003	soil samples	Dal	all		0	0	
99.85.12.001	glass.clear.lightbulb?	sp3	1		0	2	
99.85.12.002	glass.rod.clear	sp3	1		0	1	
99.85.12.003	lithicl.core.ht.fall creek	sp3	1		0	1	
99.85.12.004	FCR	sp3	1		147.4	7	
99.85.12.005	FCR	sp3	2		203	4	
99.85.12.006	lithic.glacial	sp4	1		0	1	
99.85.12.007	FCR	sp4	1		110	7	
99.85.12.008	lithic.UM flake.ht.laurel	sp4	2		0	1	
99.85.12.009	FCR	sp4	2		346	5	
99.85.12.010	lithic.UM flake.ht.laurel	sp6	1		0	1	
99.85.12.011	lithic.UM flake.wyandotte	sp6	1		0	2	
99.85.12.012	FCR	sp6	1		196.4	7	
99.85.12.013	FCR	sp7	1		112.9	6	
99.85.12.014	FCR	sp8	1		184.5	5	
99.85.12.015	FCR	sp8	2		73.9	4	
99.85.12.016	lithic.glacial	sp10	1		0	3	
99.85.12.017	glass.container.clear	sp10	1		0	3	
99.85.12.018	coal.slag	sp10	1		0	3	
99.85.12.019	FCR	sp10	1		3.8	1	
99.85.12.020	lithic.glacial	sp10	2		0	4	
99.85.12.021	flora.charcoal	sp10	2		0	2	
99.85.12.022	lithic.UM flake.ht.laurel	sp10	2		0	1	
99.85.12.023	lithic.UM flake.wyandotte	sp10	2		0	1	
99.85.12.024	FCR	sp10	2		340.4	8	
99.85.12.025	FCR	sp10	3		36.3	1	
99.85.12.026	lithic.UM flake.laurel	sp11	1		0	2	
99.85.12.027	lithic.UM flake.attica	sp11	1		0	1	
99.85.12.028	FCR	sp11	1		72.4	7	
99.85.12.029	floral.charcoal	sp11	1		0	1	
99.85.12.030	lithic.UM flake.ht.laurel	sp11	2		0	2	
99.85.12.031	lithic.UM flake.laurel	sp11	1		0	1	
99.85.12.032	flora.charcoal	sp11	2		0	1	
99.85.12.033	FCR	sp11	2		202.2	4	
99.85.12.034	FCR	sp11	3		458	1	
99.85.12.035	FCR	sp11	wall		10.2	1	
99.85.12.036	glass.container.green	sp12	1		0	1	
99.85.12.037	glass.container.clear	sp12	1		0	2	
99.85.12.038	lithic.UM flake.ht.laurel	sp12	1		0	1	
99.85.12.039	lithic.UM flake.laurel	sp12	1		0	2	
99.85.12.040	lithic.UM flake.fall creek	sp12	1		0	1	
99.85.12.041	FCR	sp12	wall		24.3	1	
99.85.12.042	glass.container.clear	sp14	e		0	1	NW side of shovel probe
99.85.12.043	FCR	sp14	e		35.9	1	E side of shovel probe
99.85.12.044	metal.hdware.nail.wire	sp14	1		0	2	
99.85.12.045	glass.container.clear	sp14	1		0	3	
99.85.12.046	lithic.UM flake.ht.laurel	sp14	1		0	1	
99.85.12.047	glass.container.amythest	sp14	1		0	1	
99.85.12.048	lithic.UM flake.ht.fall creek	sp14	1		0	3	
99.85.12.049	lithic.UM flake.laurel	sp14	1		0	1	
99.85.12.050	FCR	sp14	1		155.9	8	
99.85.12.051	lithic.bipolar.hd.unid type	sp14	2		0	1	
99.85.12.052	lithic.UM flake.fall creek	sp14	2		0	2	
99.85.12.053	lithic.UM flake.laurel	sp14	2		0	1	
99.85.12.054	lithic.UM flake.ht.laurel	sp14	2		0	1	
99.85.12.055	flake.hd.wyandotte	sp14	2		0	1	

99.85.12.056	FCR	sp14	2		66.3	2	
99.85.12.057	FCR	sp14	1		900	4	
99.85.12.058	lithic.UM flake.hd.laurel	sp15	1		0	1	
99.85.12.059	lithic.UM flake.hd.fall creek	sp15	1		0	1	
99.85.12.060	lithic.UM flake.laurel	sp15	1		0	3	
99.85.12.061	lithic.block.hd.fall creek	sp15	1		0	1	
99.85.12.062	lithic.UM flake.fall creek	sp15	1		0	1	
99.85.12.063	lithic.UM flake.ht.fall creek	sp15	1		0	1	
99.85.12.064	glass.container.amber	sp15	2		0	1	
99.85.12.065	lithic.UM flake.laurel	sp15	2		0	1	
99.85.12.066	lithic.UM flake.unid type	sp15	2		0	2	
99.85.12.067	FCR	sp15	2		92	4	
99.85.12.068	lithic.UM flake.wyandotte	sp15	3		0	1	
99.85.12.069	lithic.UM flake.laurel	sp15	3		0	2	
99.85.12.070	lithic.UM flake.fall creek	sp15	3		0	1	
99.85.12.071	FCR	sp15	3		15.4	1	
99.85.12.072	FCR	sp16	1		53.5	7	
99.85.12.073	glass.container.clear	sp16	1		0	1	
99.85.12.074	lithic.pt frag.ht.laurel	sp16	1		0	1	
99.85.12.075	glass.conainer.brown	sp16	1		0	1	
99.85.12.076	FCR	sp16	2		620.4	14	
99.85.12.077	glass.clear	sp16	2		0	0	
99.85.12.078	woodland	sp16	2		0	1	
99.85.12.079	lithic.mod flake.unid type	sp16	2		0	1	
99.85.12.080	lithic.block.hd.unid type	sp16	2		0	1	
99.85.12.081	lithic.UM flake.fall creek	sp16	2		0	1	
99.85.12.082	lithic.UM flake.laurel	sp16	2		0	3	
99.85.12.083	flora.charcoal	sp16	2		0	1	
99.85.12.084	ceramic.body.exfoliated	sp16	2		0	1	
99.85.12.085	lithic.UM flake.unid type	sp16	2		0	3	
99.85.12.086	lithic.biface frag.laurel	sp16	2		0	1	
99.85.12.087	metal.personal.shell casing	sp17	1		0	1	
99.85.12.088	FCR	sp17	1		11.3	1	
99.85.12.089	glass.container.aqua	sp18	1		0	4	
99.85.12.090	glass.container.clear	sp18	1		0	2	
99.85.12.091	FCR	sp18	1		82.5	10	
99.85.12.092	lithic.UM flake.fall creek	sp18	1		0	3	
99.85.12.093	lithic.UM flake.laurel	sp18	1		0	6	
99.85.12.094	lithic.UM flake.ht.fall creek	sp18	1		0	6	
99.85.12.095	metal.nail.machmade	sp19	1		0	1	
99.85.12.096	lithic.bipolar.laurel	sp19	1		0	1	
99.85.12.097	lithic.UM flake.ht.laurel	sp19	1		0	2	
99.85.12.098	FCR	sp19	1		359	11	
99.85.12.099	metal.unid	sp19	2		0	1	
99.85.12.100	lithic.UM flake.fall creek	sp19	2		0	1	
99.85.12.101	lithic.UM flake.laurel	sp19	2		0	1	
99.85.12.102	FCR	sp19	2		304.3	9	
99.85.12.103	lithic.UM flake.unid type	sp19	3		0	1	
99.85.12.104	lithic.UM flake.laurel	sp19	3		0	2	
99.85.12.105	FCR	sp19	3		122	1	
99.85.12.106	lithic.glacial	sp20	1		0	1	
99.85.12.107	lithic.UM flake.laurel	sp20	1		0	2	
99.85.12.108	lithic.UM flake.fall creek	sp20	1		0	1	
99.85.12.109	FCR	sp20	1		574	9	
99.85.12.110	poly.scalloped/embossed	sp22	e		0	1	
99.85.12.111	glass.container.clear	sp22	e		0	1	
99.85.12.112	glass.container.amythest	sp22	1		0	4	

99.85.12.113	glass.container.clear	sp22	1		0	2	
99.85.12.114	lithic.UM flake.ht.fall creek	sp22	1		0	1	
99.85.12.115	FCR	sp22	1		0	4	
99.85.12.116	glass.container.amythest	sp22	2		0	1	
99.85.12.117	FCR	sp22	2		50	2	
99.85.12.118	FCR	sp22	3		56.1	1	
99.85.12.119	glass.container.clear	sp22	wall		0	1	
99.85.12.120	FCR	sp22	wall		10	1	
99.85.12.121	glass.unid.clear	sp23	1		0	6	
99.85.12.122	fauna.mandible.rodent	sp23	1		0	1	
99.85.12.123	FCR	sp23	1		86.2	2	
99.85.12.124	glass.container.clear	sp23	2		0	4	
99.85.12.125	lithic.UM flake.ht.fall creek	sp23	2		0	1	
99.85.12.126	lithic.glacial	sp23	2		0	1	
99.85.12.127	FCR	sp23	2		51.6	3	
99.85.12.128	glass.unid.clear	sp23	3		0	1	
99.85.12.129	lithic.UM flake.unid type	sp23	3		0	1	
99.85.12.130	lithic.UM flake.ht.laurel	sp23	3		0	2	
99.85.12.131	lithic.UM flake.attica	sp23	3		0	1	
99.85.12.132	lithic.glacial	sp23	3		0	1	
99.85.12.133	FCR	sp23	3		59.4	3	
99.85.12.134	lithic.UM flake.ht.unid type	sp23	4		0	1	
99.85.12.135	glass.unid.clear	sp23	wall		0	2	
99.85.12.136	metal.unid	sp24			0	3	
99.85.12.137	lithic.mod flake.laurel	sp24			0	1	
99.85.12.138	lithic.UM flake.unid type	sp24			0	1	
99.85.12.139	FCR	sp24			101	7	
99.85.12.140	glass.container.amythest	sp24			0	1	
99.85.12.141	lithic.UM flake.fall creek	sp24			0	1	
99.85.12.142	lithic.UM flake.wyandotte	sp24			0	2	
99.85.12.143	lithic.UM flake.ht.laurel	sp24			0	2	
99.85.12.144	lithic.mod flake.unid type	sp24			0	1	
99.85.12.145	FCR	sp24			2151	20	
99.85.12.146	lithic.UM flake.ht.laurel	sp24			0	2	
99.85.12.147	lithic.mod flake.laurel	sp24			0	1	
99.85.12.148	lithic.core.laurel	sp24			0	1	
99.85.12.149	FCR	sp24			75	3	
99.85.12.150	glass.container.clear	sp25			0	1	
99.85.12.151	lithic.UM flake.laurel	sp25			0	1	
99.85.12.152	lithic.mod flake.ht.laurel	sp25			0	1	
99.85.12.153	FCR	sp25			436.2	20	
99.85.12.154	FCR	sp25			832	20	
99.85.12.155	FCR	sp25			7.3	1	
99.85.12.156	lithic.UM flake.laurel	sp25			0	1	
99.85.12.157	glass.unid.clear	sp26			0	1	
99.85.12.158	FCR	sp26			168.5	15	
99.85.12.159	glass.bottle.amythest	sp26			0	1	
99.85.12.160	glass.container.clear	sp26			0	2	
99.85.12.161	lithic.UM flake.laurel	sp26			0	3	
99.85.12.162	lithic.UM flake.ht.unid	sp26			0	1	
99.85.12.163	lithic.UM flake.wyandotte	sp26			0	3	
99.85.12.164	lithic.UM flake.ht.laurel	sp26			0	1	
99.85.12.165	lithic.UM flake.attica	sp26			0	1	
99.85.12.166	lithic.UM flake.ht.attica	sp26			0	1	
99.85.12.167	FCR	sp26			565	12	
99.85.12.168	glass.container.clear	sp26			0	1	
99.85.12.169	lithic.UM flake.laurel	sp26			0	2	

99.85.12.170	lithic.UM flake.wyandotte	sp26	2		0	2	
99.85.12.171	lithic.UM flake.unid type	sp26	2		0	1	
99.85.12.172	flora.charcoal	sp26	2		2.9	2	
99.85.12.173	FCR	sp26	2		307.2	2	
99.85.12.174	lithic.UM flake.wyandotte	sp26	3		0	1	
99.85.12.175	glass.container.clear	sp27	1		0	1	
99.85.12.176	glass.container.green	sp27	1		0	3	
99.85.12.177	glass.unid.amythest	sp27	1		0	1	
99.85.12.178	lithic.UM flake.attica	sp27	1		0	1	
99.85.12.179	lithic.UM flake.ht.laurel	sp27	1		0	1	
99.85.12.180	FCR	sp27	1		66.7	4	
99.85.12.181	lithic.UM flake.hd.laurel	sp27	2		0	1	
99.85.12.182	lithic.UM flake.hd.laurel	sp27	2		0	1	
99.85.12.183	lithic.biface frag.unid type	sp27	2		0	1	
99.85.12.184	FCR	sp27	2		640	14	
99.85.12.185	FCR	sp27	3		43.3	2	
99.85.12.186	metal.nail.wire	sp28	1		0	3	
99.85.12.187	glass.container.aqua	sp28	1		0	4	
99.85.12.188	glass.unid.clear	sp28	1		0	3	
99.85.12.189	glass.container.amber	sp28	1		0	1	
99.85.12.190	ceramic.porcelain.plain	sp28	1		0	1	
99.85.12.191	FCR	sp28	1		28.4	4	
99.85.12.192	glass.container.amythest	sp28	wall 1		0	1	
99.85.12.193	glass.bead.blue	sp28	2		0	1	
99.85.12.194	glass.container.clear	sp28	2		0	1	
99.85.12.195	lithic.UM flake.wyandotte	sp28	2		0	1	
99.85.12.196	lithic.UM flake.ht.laurel	sp28	2		0	1	
99.85.12.197	FCR	sp28	2		106.4	4	
99.85.12.198	metal.nail.wire	sp28	3		0	2	
99.85.12.199	lithic.UM flake.unid type	sp28	3		0	1	
99.85.12.200	lithic.glacial	sp28	3		0	1	
99.85.12.201	lithic.UM flake.ht.laurel	sp28	3		0	2	
99.85.12.202	lithic.core.unid type	sp28	3		0	1	
99.85.12.203	t	sp29	1		0	1	
99.85.12.204	glass.contianer.clear	sp29	1		0	3	
99.85.12.205	lithic.UM flake.wyandotte	sp29	1		0	2	
99.85.12.206	creek	sp29	1		0	1	
99.85.12.207	lithic.UM flake.ht.fall creek	sp29	1		0	1	
99.85.12.208	lithic.UM flake.ht.laurel	sp29	1		0	2	
99.85.12.209	lithic.UM flake.laurel	sp29	1		0	2	
99.85.12.210	lithic.bipolar.fall creek	sp29	1		0	1	
99.85.12.211	FCR	sp29	1		40	3	
99.85.12.212	lithic.UM flake.hd.laurel	sp29	2		0	1	
99.85.12.213	lithic.UM flake.ht.laurel	sp29	2		0	2	
99.85.12.214	lithic.UM flake.laurel	sp29	2		0	1	
99.85.12.215	FCR	sp29	2		741.6	8	
99.85.12.216	metal.unid	sp30	1		0	4	
99.85.12.217	glass.container.clear	sp30	1		0	1	
99.85.12.218	t	sp30	1		0	1	
99.85.12.219	glass.container.amber	sp30	1		0	1	
99.85.12.220	ceramic.porcelain.insulator	sp30	1		0	1	
99.85.12.221	trans.whiteware	sp30	1		0	1	
99.85.12.222	lithic.UM flake.wyandotte	sp30	1		0	1	
99.85.12.223	lithic.UM flake.ht.laurel	sp30	1		0	1	
99.85.12.224	FCR	sp30	1		338.2	19	
99.85.12.225	lithic.glacial	sp30	2		0	1	
99.85.12.226	lithic.UM flake.wyandotte	sp30	2		0	1	

99.85.12.227	lithic.UM flake.fall creek	sp30	2		0	1	
99.85.12.228	flora.charcoal	sp30	2		1.8	1	
99.85.12.229	FCR	sp30	2		227.5	11	
99.85.12.230	flora.charcoal.cln smpl	sp30	2		0.4	1	
99.85.12.231	metal.nail.wire	sp32	1		0	1	
99.85.12.232	glass.container.amythest	sp32	1		0	1	
99.85.12.233	glass.container.clear	sp32	1		0	5	
99.85.12.234	glass.plate.green	sp32	1		0	7	
99.85.12.235	ceramic.porcelain.insulator	sp32	1		0	4	
99.85.12.236	lithic.UM flake.laurel	sp32	1		0	2	
99.85.12.237	lithic.glacial	sp32	1		0	1	
99.85.12.238	lithic.UM flake.ht.laurel	sp32	1		0	1	
99.85.12.239	FCR	sp32	1		290	13	
99.85.12.240	glass.unid.clear	sp32	2		0	1	
99.85.12.241	ceramic.whiteware.plain	sp32	2		0	1	
99.85.12.242	lithic.block.fall creek	sp32	2		0	1	
99.85.12.243	lithic.UM flake.unid type	sp32	2		0	1	
99.85.12.244	FCR	sp32	2		121	11	
99.85.12.245	lithie.EM flake.laurel	sp32	3		0	1	
99.85.12.246	lithic.glacial	sp32	3		0	1	
99.85.12.247	FCR	sp32	3		80.7	3	
99.85.12.248	metal.pers.22 bullet shell	sp33	1		0	1	
99.85.12.249	lithic.UM flake.laurel	sp33	1		0	1	
99.85.12.250	lithic.mod flake.ht.laurel	sp33	1		0	1	
99.85.12.251	FCR	sp33	1		504	3	
99.85.12.252	glass.unid.clear	sp33	2		0	1	
99.85.12.253	FCR	sp33	2		761.5	6	
99.85.12.254	glass.container.clear	sp33	3		0	6	
99.85.12.255	ceramic.procelan.plain	sp33	3		0	1	
99.85.12.256	lithic.glacial	sp33	3		0	1	
99.85.12.257	lithic.core.glacial	sp33	3		0	1	
99.85.12.258	FCR	sp33	3		16.5	2	
99.85.12.259	soil samples	sp33	all		0	3	
99.85.12.260	glass.container.clear	sp34	1		0	2	
99.85.12.261	glass.container.clear	sp34	1		0	2	
99.85.12.262	ceramic.whiteware.plain	sp34	1		0	1	
99.85.12.263	"1919"	sp34	1		0	1	
99.85.12.264	FCR	sp34	1		134.3	4	
99.85.12.265	ceramic.whiteware.plain	sp34	2		0	1	
99.85.12.266	lithic.hammerstone	sp34	2		0	1	
99.85.12.267	lithic.UM flake.fall creek	sp34	3		0	2	
99.85.12.268	lithic.UM flake.wyandotte	sp34	3		0	1	
99.85.12.269	lithic.core.fall creek	sp35	e	1.5m from sp35 datum	0	1	
99.85.12.270	glass.chimney.clear	sp35	e		0	1	
99.85.12.271	metal.nail.wire	sp35	1		0	1	
99.85.12.272	glass.container.aqua	sp35	1		0	2	
99.85.12.273	glass.chimney.clear	sp35	1		0	1	
99.85.12.274	glass.container.clear	sp35	1		0	7	
99.85.12.275	coal.slag	sp35	1		3	5	
99.85.12.276	flora.charcoal	sp35	1		2.5	0	
99.85.12.277	bldmat.brick.red	sp35	2		0	1	
99.85.12.278	lithic.UM flake.laurel	sp35	2		0	1	
99.85.12.279	lithic.UM flake.ht.fall creek	sp35	2		0	1	
99.85.12.280	lithic.UM flake.laurel	sp35	3		0	1	
99.85.12.281	lithic.UM flake.unid type	sp35	3		0	1	
99.85.12.282	FCR	sp35	3		126	3	
99.85.12.283	glass.container.clear	sp35	4		0	1	

99.85.12.284	"1919'	sp36	1		0	1	
99.85.12.285	ceramic.whiteware.plain	sp36	1		0	1	
99.85.12.286	lithic.UM flake.ht.fall creek	sp36	1		0	1	
99.85.12.287	lithic.UM flake.ht.fall creek	sp36	1		0	1	
99.85.12.288	ceramic.whiteware.plain	sp36	2		0	2	
99.85.12.289	lithic.UM flake.ht.laurel	sp36	2		0	2	
99.85.12.290	lithic.UM flake.unid type	sp36	2		0	1	
99.85.12.291	FCR	sp36	2		146.4	5	
99.85.12.292	lithic.UM flake.ht.laurel	sp36	3		0	1	
99.85.12.293	lithic.UM flake.wyandotte	sp36	3		0	1	
99.85.12.294	FCR	sp36	3		674	6	
99.85.12.295	FCR	sp36	4		9.7	2	
99.85.12.296	lithic.UM flake.ht.laurel	sp37	1		0	1	
99.85.12.297	ceramic.whiteware.plain	sp37	1		0	1	
99.85.12.298	lithic.glacial	sp37	1		0	2	
99.85.12.299	FCR	sp37	1		3.5	1	
99.85.12.300	glass.bottle.amber	sp38	1		0	1	
99.85.12.301	ceramic.whiteware.plain	sp38	1		0	1	
99.85.12.302	lithic.UM flake.fall creek	sp38	1		0	2	
99.85.12.303	lithic.UM flake.fall creek	sp38	1		0	1	
99.85.12.304	FCR	sp38	1		85.4	1	
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1985 Unit

Catalog Number	Identification	XU	Level	Provenience	Weight	No	Association
88.105.01	primary flake, glacial	1985	1	in sod layer, NE 1/4		1	
88.105.02	broken flake, HT Burlington	1985	1	in sod layer, SE 1/4		1	
88.105.03	broken flake, Attica	1985	1			1	
88.105.04	retouched flake, glacial	1985	1			1	
88.105.05	Burlington	1985	1	under sod, east side		2	
88.105.06	bipolar, glacial	1985	1	under sod, east side		1	
88.105.07	block flake, glacial	1985	1			2	
88.105.08	glass, clear	1985	2	just under sod		1	
88.105.09	core, Attica	1985	2	just under sod		1	
88.105.10	glacial	1985	2	just under sod		2	
88.105.11	block flake, glacial	1985	2	just under sod		2	
88.105.12	initial reduction flake	1985	2	just under sod		1	
88.105.13	retouched flake, glacial	1985	2	just under sod		1	
88.105.14	edge modified flake, glacial	1985	2	just under sod		2	
88.105.15	shell	1985	2	just under sod		1	
88.105.16	primary flake, glacial	1985	2	52 W, 52 S		1	
88.105.17	biface fragment, Attica	1985	2	62 E, 0 S		1	
88.105.18	edge modified flake, glacial	1985	2	41 W, 0 N		1	
88.105.19	block flake, glacial	1985	2	84, E 14 S		1	
88.105.20	block flake, glacial	1985	2	61 E, 18 S		1	
88.105.21	block flake, Attica	1985	2	32 E, 64 S		1	
88.105.22	core, glacial	1985	2	10 E, 36 S		1	
88.105.23	primary flake, glacial	1985	2	97 E, 65 S		1	
88.105.24	edge modified flake, Attica	1985	2	31 E, 99 N		1	
88.105.25	broken flake, Attica	1985	2	69 E, 80 S		1	
88.105.26	edge modified, Attica	1985	2	64 W, 37 N		1	
88.105.27	fire-cracked rock	1985	2			1	
88.105.28	charcoal	1985	2			3	
88.105.29	fire-cracked rock	1985	2			1	
88.105.30	Attica, 1 glacial, 1 HT	1985	2			3	
88.105.31	block flake, glacial	1985	2			1	

88.105.32	broken flake, Attica	1985	2			3	
88.105.33	glacial	1985	2			1	
88.105.34	primary flake, glacial	1985	2			2	
88.105.35	bottle glass	1985	2			3	
88.105.36	metal washer	1985	2			1	
						50	

Appendix C

New Castle Complex Artifact Catalog

Appendix C
New Castle Complex Artifact Catalog

Catalog Number	Identification	Unit	Level	Provenience	Weight	No	Association
99.86.01.001	ash	trench A	a1		0	18	
99.86.01.002	clay.burned	trench A	a1		3.8	0	
99.86.01.002	coal.slag	trench B	b1		26.5	0	
99.86.01.003	pottery.body.exfoliated	trench A	a1		0	2	
99.86.01.004	FCR	trench A	a1		38.9	4	
99.86.01.005	pottery.body.incised	trench A	a1		0	1	
99.86.01.006	fauna.bone.unid/human.burned	trench A	a1		0	29	
99.86.01.007	pottery.body.plain	trench A	a1		0	3	
99.86.01.008	lithic.UM flake.hd.unid type	trench A	a1		0	3	
99.86.01.009	flora.charcoal	trench A	a1		1.9	0	
99.86.01.010	synthetic.plastic	trench A	a1		0	1	
99.86.01.011	lithic.block.laurel	trench A	a1		0	1	
99.86.01.012	clay.burned	trench A	a2		2.7	0	
99.86.01.013	lithic.UM flake.wyandotte	trench A	a2		0	1	
99.86.01.014	ash	trench A	a2		0	6	
99.86.01.015	fauna.bone.unid.burned	trench A	a2		0	16	
99.86.01.016	fauna.bone.unid	trench A	a2		0	1	
99.86.01.017	pottery.body.exfoliated	trench A	a2		0	2	
99.86.01.018	flora.charcoal	trench A	a2		2.4	0	
99.86.01.019	lithic.UM flake.laurel	trench A	a2		0	1	
99.86.01.020	pottery.rim.incised	trench A	a2		0	1	
99.86.01.021	FCR	trench A	a2		248.4	12	
99.86.01.022	coal.slag	trench A	a2		0	3	
99.86.01.023	fauna.bone.unid/human?	trench A	a3		0	27	
99.86.01.024	ash	trench A	a3		0	37	
99.86.01.025	flora.charcoal	trench A	a3		2.8	0	
99.86.01.026	clay.burned	trench A	a3		11.8	0	
99.86.01.027	coal.slag	trench A	a3		0	6	
99.86.01.028	lithic.UM flake.unid type	trench A	a3		0	1	
99.86.01.029	lithic.UM flake.hd.wyandotte	trench A	a3		0	1	
99.86.01.030	lithic.UM flake.ht.laurel	trench A	a3		0	2	
99.86.01.031	FCR	trench A	a3		148.9	4	
99.86.01.032	pottery.body.plain	trench A	a3		0	2	
99.86.01.033	lithic.UM flake.laurel	trench A	a3		0	3	
99.86.01.034	lithic.UM flake.hd.unid type	trench A	a3		0	1	
99.86.01.035	lithic.UM flake.wyandotte	trench A	a3		0	2	
99.86.01.036	fauna.bone.unid	trench A	a3		0	1	
99.86.01.037	lithic.UM flake.laurel	trench A	a4		0	2	
99.86.01.038	shell.mussel	trench A	a4		0	2	
99.86.01.039	ash	trench A	a4		0	1	
99.86.01.040	pottery.body.eroded	trench A	a4		0	1	
99.86.01.041	fauna.bone.unid	trench A	a4		0	2	
99.86.01.042	pottery.body.plain	trench A	a4		0	6	
99.86.01.043	flora.charcoal	trench A	a4		1.9	0	
99.86.01.044	lithic.UM flake.unid type	trench A	a4		0	1	
99.86.01.045	lithic.UM flake.hd.unid type	trench A	a4		0	1	
99.86.01.046	lithic.UM flake.burlington	trench A	a4		0	1	
99.86.01.047	FCR	trench A	a4		166.8	5	
99.86.01.048	d	trench A	a4		0	29	
99.86.01.049	lithic.UM flake.unid type	trench A	a5		0	1	
99.86.01.050	pottery.body.plain	trench A	a5		0	3	
99.86.01.051	lithic.UM flake.laurel	trench A	a5		0	1	
99.86.01.052	ash	trench A	a5		0	6	
99.86.01.053	flora.charcoal	trench A	a5		3	0	
99.86.01.054	coal.slag	trench A	a5		0	3	
99.86.01.055	pottery.body.incised	trench A	a5		0	1	
99.86.01.056	FCR	trench A	a5		167.6	5	
99.86.01.057	d	trench A	a5		0	41	
99.86.01.059	flora.charcoal	trench A	a6		0.4	0	

99.86.01.060	fauna.bone.unid	trench A	a6		0	1	
99.86.01.061	ash	trench A	a6		0	5	
99.86.01.062	d	trench A	a6		0	8	
99.86.01.063	pottery.body.plain	trench A	a6		0	2	
99.86.01.064	lithic.UM flake.hd.unid type	trench A	a6		0	1	
99.86.01.065	lithic.bipolar.glacial	trench A	a6		0	1	
99.86.01.066	lithic.UM flake.ht.laurel	trench A	a6		0	1	
99.86.01.067	FCR	trench A	a6		164.9	3	
99.86.01.068	fauna.bone.unid/human?	trench A	1-A	1mx1m	0	25	
99.86.01.069	lithic.UM flake.wyandotte	trench A	1-A	1mx1m	0	1	
99.86.01.070	fauna.human.zygomatic.burned	trench A	1-A	1mx1m	0	1	
99.86.01.071	fauna.human.teeth.burned	trench A	1-A	1mx1m	0	3	
99.86.01.072	fauna.human.coccyx.caudal 1	trench A	1-A	1mx1m	0	1	
99.86.01.073	fauna.human.carpal.lunate	trench A	1-A	1mx1m	0	1	
99.86.01.074	flora.charcoal	trench A	1-A	1mx1m	1.4	0	
99.86.01.075	fauna.human.parietal.burned	trench A	1-A	1mx1m	0	1	
99.86.01.076	ash	trench A	1-A	1mx1m	0	8	
99.86.01.077	pottery.body.plain	trench A	1-A	1mx1m	0	2	
99.86.01.078	pottery.body.exfoliated	trench A	1-A	1mx1m	0	1	
99.86.01.079	FCR	trench A	1-A	1mx1m	51.9	0	
99.86.01.080	fauna.tooth enamel?	trench A	1-A	1mx1m	0	1	
99.86.01.081	phalanx.hand	trench A	1-A	1mx1m	0	1	
99.86.01.082	fauna.human.burned	trench A	1-A	1mx1m	0	162	
99.86.01.083	fauna.bone.unid	trench A	1-A	1mx1m	0	2	dbd
99.86.01.084	fauna.bone.unid.burned	trench A	1-A	1mx1m	0	6	dbd
99.86.01.085	pottery.body.plain	trench A	1-A	30cmx30cm	0	1	
99.86.01.086	fauna.bone.unid/human?	trench A	1-A	30cmx30cm	0	2	
99.86.01.087	fauna.bone.human.burned	trench A	1-A	30cmx30cm	0	22	
99.86.01.088	FCR	trench A	1-A	1mx1m	4.3	0	
99.86.01.089	fauna.bone.unid/human?	trench A	1-A	1mx1m	0	3	
99.86.01.090	flora.charcoal	trench A	1-A	1mx1m	1.1	0	
99.86.01.091	fauna.human.burned	trench A	1-A	1mx1m	0	72	
99.86.01.092	flora.charcoal.cln smpl	trench A	1-A	1mx1m	0.4	0	dbd
99.86.01.093	flora.charcoal.cln smpl	trench A	1-A		0.1	0	
99.86.01.094	Artifact #3 FCR	trench A	1-A	east wall	5.3	0	
99.86.01.095	Artifact #8 FCR	trench A	1-A		130.8	0	
99.86.01.096	flora.charcoal	trench A	1-A		0.8	0	
99.86.01.097	clay.burned	trench A	back dirt		2.6	0	
99.86.01.098	flora.charcoal	trench A	back dirt		0.4	0	
99.86.01.099	fauna.bone.unid/human.burned	trench A	back dirt		0	12	
99.86.01.100	fauna.bone.unid	trench A	back dirt		0	3	
99.86.01.101	pottery.body.plain	trench A	shv		0	1	
99.86.01.102	ash	trench A	shv		0	2	
99.86.01.103	coal.slag	trench A	shv		0	1	
99.86.01.104	lithic.core.laurel	trench A	shv		0	1	
99.86.01.105	fauna.bone.unid	trench A	shv		0	4	
99.86.01.106	fauna.bone.unid.burned	trench A	shv		0	1	
99.86.01.107	lithic.UM flake.laurel	trench A	shv		0	1	
99.86.01.108	FCR	trench A	shv		145.3	0	
99.86.01.109	lithic.UM flake.ht.laurel	trench A	scr		0	1	
99.86.01.110	lithic.UM flake.hd.unid type	trench A	scr		0	1	
99.86.01.111	lithic.UM flake.fall creek	trench A	scr		0	1	
99.86.01.112	limestone.burned	trench A	scr		0	4	
99.86.01.113	ash	trench A	scr		0	3	
99.86.01.114	pottery.body.newcastle incised	trench A	scr		0	1	
99.86.01.115	pottery.body.plain	trench A	scr		0	2	
99.86.01.116	clay.burned	trench A	scr		0	0	
99.86.01.117	fauna.bone.unid/human?	trench A	scr		0	37	
99.86.01.118	frag.burned	trench A	scr		0	1	
99.86.01.119	fauna.human.tooth.burned	trench A	scr		0	1	

99.86.01.120	d	trench A	scr		0	167	
99.86.01.121	lithic.block.glacial	trench A	scr		0	1	
99.86.01.122	flora.charcoal	trench A	scr		0.2	0	
99.86.01.123	FCR	trench A	scr		160.4	4	
99.86.01.124	flora.charcoal	trench A	N wall	zone 18	7	0	
99.86.01.125	charcoal and ash deposit	trench A	N wall	zone 18	0	0	
99.86.01.126	ash sample	trench A	N wall		135.6	0	
99.86.01.127	soil sample	trench A	pit	zone 14	398.2	0	
99.86.01.128	(some human), bone, flakes,	1-A		Trench A	0	0	5 bags
99.86.01.129	(some human), flakes, charcoal,	1-A		Trench A	0	0	4 bags
99.86.02.001	lithic.UM flake.wyandotte	trench B	b1		0	1	
99.86.02.003	FCR	trench B	b1		75.6	1	
99.86.02.004	synthetic.plastic	trench B	b2		0	4	
99.86.02.005	coal.slag	trench B	b2		7.2	0	
99.86.02.006	flora.charcoal	trench B	b2		0.5	0	
99.86.02.007	clay.burned	trench B	b2		15.8	0	
99.86.02.008	ceramic.whiteware.plain	trench B	b2		0	1	
99.86.02.009	fauna.bone.burned	trench B	b2		0	2	
99.86.02.010	lithic.mod flake.fall creek	trench B	b2		0	2	
99.86.02.011	lithic.UM flake.laurel	trench B	b2		0	1	
99.86.02.012	fauna.bone.burned	trench B	b3		0	1	
99.86.02.013	clay.burned	trench B	b3		4.7	0	
99.86.02.014	clay.burned	trench B	b3		36.9	0	
99.86.02.015	flora.charcoal	trench B	b3		0.45	0	
99.86.02.016	glass.container.clear.embossed	trench B	b3		171.3	0	
99.86.02.017	lithic.UM flake.burlington	trench B	b4		0	1	
99.86.02.018	lithic.UM flake.unid.type	trench B	b4		0	1	
99.86.02.019	lithic.pt frag.early archaic.attica	trench B	b4		0	1	
99.86.02.020	lithic.UM flake.fall creek	trench B	b4/b5		0	1	
99.86.02.021	lithic.UM flake.wyandotte	trench B	b4/b5		0	1	
99.86.02.022	flora.charcoal	trench B	b4/b5		1.8	0	
99.86.02.023	fauna.bone.human.burned	trench B	b4/b5		0	7	
99.86.02.024	FCR	trench B	b4/b5		131.1	3	
99.86.02.025	lithic.UM flake.laurel	trench B	b5		0	1	
99.86.02.026	lithic.UM flake.ht.fall creek	trench B	b5		0	1	
99.86.02.027	flora.charcoal	trench B	b5		1.5	0	
99.86.02.028	fauna.bone.unid.burned	trench B	b5		0	4	
99.86.02.029	FCR	trench B	b5		125.1	0	
99.86.02.030	glass.clear.tube	trench B	b5		0	2	
99.86.02.031	flora.charcoal	trench B	b6		1.9	0	
99.86.02.032	FCR	trench B	b6		417.1	3	
99.86.02.033	cola"	trench B	b6		0	1	left by prev excavation
99.86.02.034	flora.charcoal.cln smpl	trench B	b6	floor	0.4	0	
99.86.02.035	soil sample	trench B		zone 15	0	0	
99.86.02.036	soil sample	trench B		zone 25	0	0	
99.86.02.037	soil sample	trench B	zone 2		0	0	
99.86.02.038	soil sample	trench B	zone 3		0	0	
99.86.02.039	soil sample	trench B	zone 4		0	0	
99.86.02.040	soil sample	trench B	zone 5		0	0	
99.86.02.041	soil sample	trench B	zone 6		0	0	
99.86.02.042	soil sample	trench B	zone 7		0	0	
99.86.02.043	soil sample	trench B	zone 8		0	0	
99.86.02.044	soil sample	trench B	zone 9a		0	0	
99.86.02.045	soil sample	trench B	zone 9b		0	0	
99.86.02.046	soil sample	trench B	zone 10		0	0	
99.86.02.047	soil sample	trench B	zone 11		0	0	
99.86.02.048	soil sample	trench B	zone 12		0	0	
99.86.02.049	soil sample	trench B	zone 13		0	0	
99.86.02.050	soil sample	trench B	zone 14		0	0	
99.86.02.051	soil sample	trench B	zone 15		0	0	

99.86.02.052	soil sample	trench B	zone 16		0	0	
99.86.02.053	soil sample	trench B	zone 17		0	0	
99.86.02.054	soil sample	trench B	zone 18		0	0	
99.86.02.055	soil sample	trench B	zone 19		0	0	
99.86.02.056	soil sample	trench B	zone 20		0	0	
99.86.02.057	soil sample	trench B	zone 21		0	0	
99.86.02.058	soil sample	trench B	zone 22		0	0	
99.86.02.058	glass.container.clear	trench A	a6		0	1	
99.86.02.059	soil sample	trench B	zone 23		0	0	
99.86.02.060	soil sample	trench B	zone 24		0	0	
99.86.02.061	soil sample	trench B	zone 25		0	0	
99.86.02.062	soil sample	trench B	b6	floor, W wall	0	0	
99.86.02.063	charcoal	B4/B5	Strata C	Trench B	0	0	bulk removal
99.86.02.064	bone, charcoal, burned clay and	B5	Strata 2	Trench B	0	0	
99.86.02.065	bone, burned clay, charcoal,	B6	floor	Trench B	0	0	
					3029.85	933	

Appendix D

Artifact Photographs

Figure 1. Artifacts from 12M2a unit: a) metal clothing fastener, b) clear glass and c) amber glass.

Figure 2. Artifacts from 12M2h, unit 1: a) unmodified flakes, b) exfoliated body sherds, c) plain body sherds and d) New Castle Incised rim sherd.

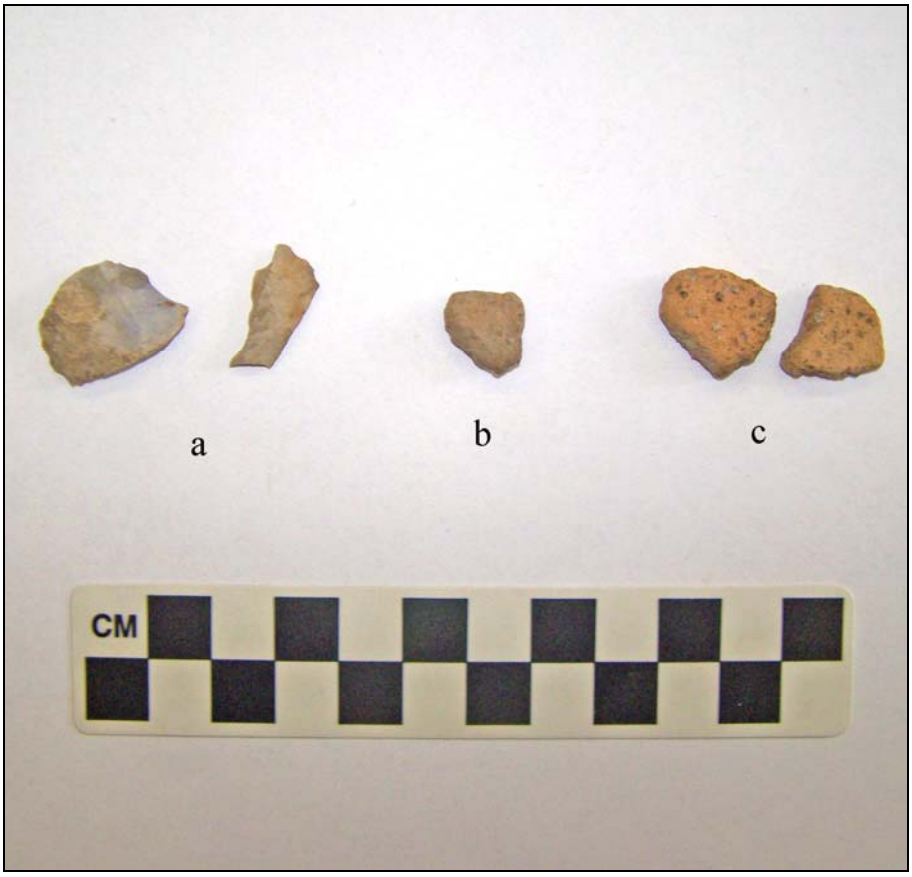

Figure 3. Artifacts from 12M2h, unit 4: a) unmodified flakes, b) plain body sherd and c) exfoliated body sherds.

Figure 4. Artifacts from 12M2h, unit 5: a) plain body sherds, b) incised body sherds, c) unmodified flake and d) other chipped stone.

Figure 5. Artifacts from 12M2i: a) porcelain insulator, b) 191? penny, c) metal nut, d) wire nail, e) amber glass, f) clear chimney/light bulb glass, g) clear flat glass and h) blue glass rod.

Figure 6. Artifacts from 12M2k: a) .22 shell, b) clear glass, c) wire nail and d) concrete.

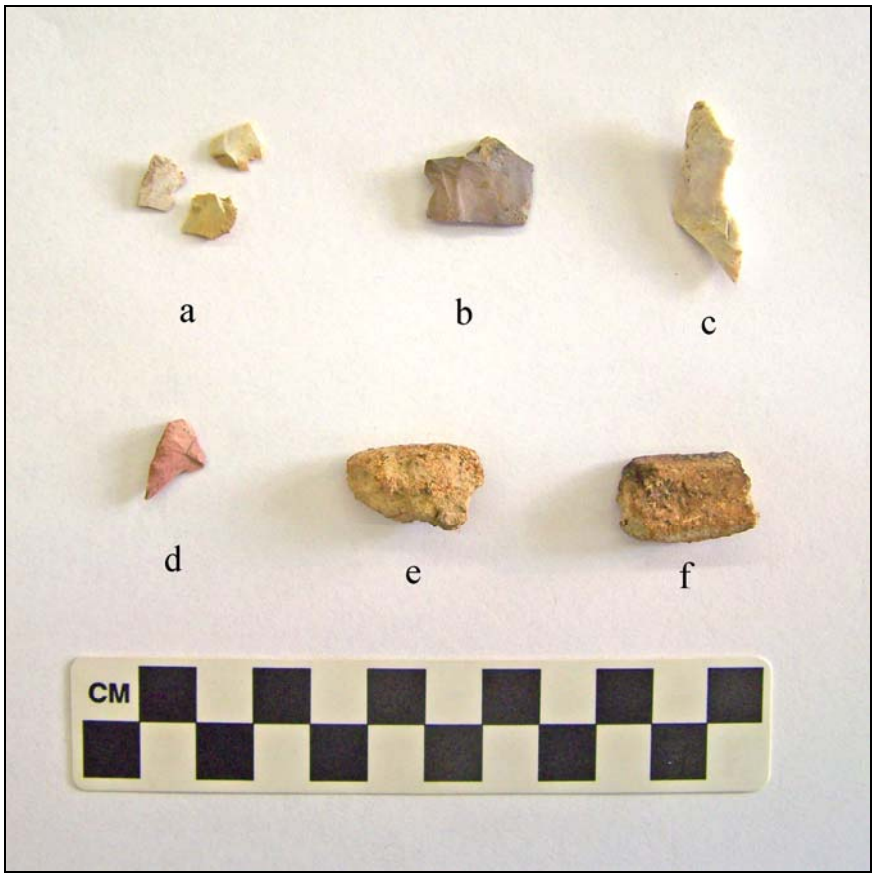

Figure 7. Prehistoric artifacts from 12M2hh: a) unmodified flakes, b) edge modified flake, c) biface fragment, d) point fragment, e) eroded body sherd and f) plain rim sherd.

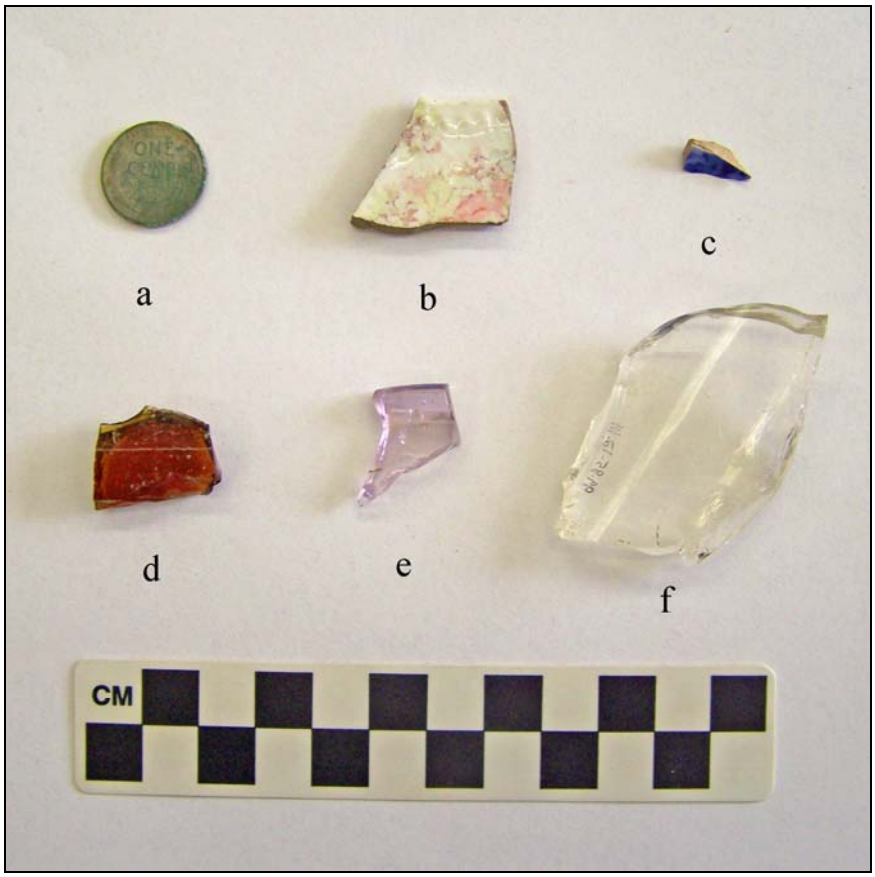

Figure 8. Historic artifacts from 12M2hh: a) 1919 penny, b) polychrome decal on whiteware, c) flow blue whiteware, d) amber glass, e) amethyst glass and f) clear glass.

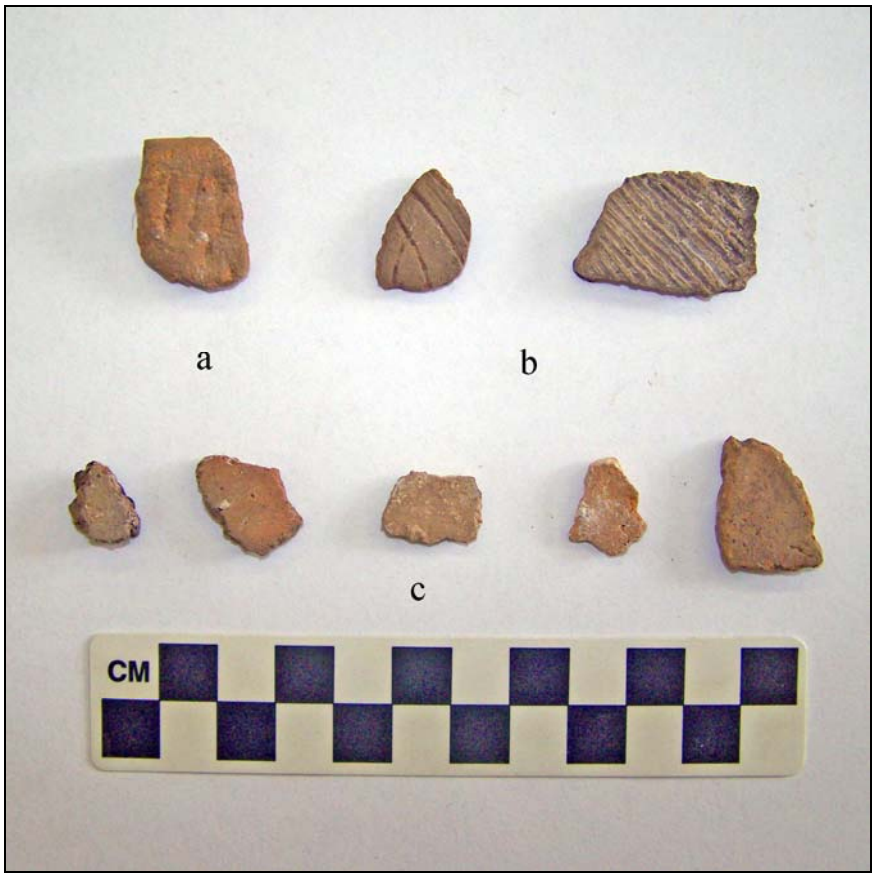

Figure 9. Artifacts from 12Hn1, trench A: a) New Castle Incised rim sherd, b) New Castle Incised body sherds, c) plain body sherds.

Figure 10. Early Archaic point fragment from 12Hn1, trench b.